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How Process Enterprises Really Work

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Although reengineering has in some circles become a euphemism for mindless downsizing, it has in fact done a world of good. It has enabled companies to operate faster and more efficiently and to use information technology more productively. It has improved the jobs of employees, giving them more authority and a clearer view of how their work fits into the operations of the enterprise as a whole. It has rewarded customers with higher-quality products and more responsive service. And it has paid big dividends to shareholders, reducing companies’ costs, increasing their revenues, and boosting their stock values.

Most of all, though, reengineering has changed the perspective of business leaders. No longer do executives see their organizations as sets of discrete units with well-defined boundaries. Instead, they see them as flexible groupings of intertwined work and information flows that cut horizontally across the business, ending at points of contact with customers. Reengineering, in other words, has allowed executives to see through the surface structure of their organizations to the underlying purpose: the delivery of value to customers in a way that creates profits for shareholders.

But this new process view of organizations has not yet been fully realized. Many companies have integrated their core processes, combining related activities and cutting out ones that don’t add value, but only a few have fundamentally changed the way they manage their organizations. The power in most companies still resides in vertical units—sometimes focused on regions, sometimes on products, sometimes on functions—and those fiefdoms still jealously guard their turf, their people, and their resources. The combination of integrated processes and fragmented organizations has created a form of cognitive dissonance in many businesses: the horizontal processes pull people in one direction; the traditional vertical management systems pull them in another. Confusion and conflict ensue, undermining performance.

That’s not the way it has to be. In recent years, we’ve seen a number of companies...
make the leap from process redesign to process management. They have appointed some of their best managers to be process owners, and they have given them real authority over work and budgets. They have shifted the focus of their measurement systems from unit goals to process goals, and they have based compensation and advancement directly on process performance. They have changed the way they assign and train employees, emphasizing whole processes rather than narrow tasks. And they have made subtle but fundamental changes to their cultures, stressing teamwork and customers over turf and hierarchy. They have emerged from all those changes as true process enterprises—companies whose management structures are in harmony, rather than at war, with their core processes—and they have reaped enormous benefits as a result.

Creating a Process Enterprise

Texas Instruments’ calculator business is one such process enterprise. In the early 1990s, the once-thriving unit was in trouble. Plagued by long cycle times in new product development, it was losing sales to more nimble competitors. Management saw the problem and took action, redesigning the product development process from scratch. New calculators would now be developed by teams of people drawn from engineering, marketing, and other departments who would work together in the same location. Each team would have full responsibility for its product from conception through launch, including such highly specialized activities as producing documentation, creating advertising, and even developing training materials for teachers suggesting ways to integrate calculator use into their classes. Because each team would control every aspect of its process, all development activities would be performed in a coherent, streamlined fashion, free of all the old bottlenecks and delays.

That was the theory. But it didn’t work out that way. The first pilot teams not only failed to achieve the desired reductions in development times, they barely managed to operate at all. They were, in effect, sabotaged by the existing organization, which viewed them as interlopers. Functional departments were unwilling to cede people, space, or responsibility to the teams. The technical writers and designers charged with creating documentation got instructions from the product team and then got conflicting orders from their supervisors in the marketing department. The corporate training unit refused to relinquish control over the development of training materials, and the advertising department insisted on continuing to create product advertising. An effort that had been intended to create harmony in product development instead created discord.

The problem was not in the design of the process. The problem was that power continued to lie in the old functional departments. The business’s leaders soon realized that it was impossible to superimpose an integrated process on a fragmented organization.

Rather than give up on the process, they changed the organization. The development teams became the primary organizational units. The mission of the functional departments was redefined; no longer responsible for the work, they focused on training people in the skills required by the teams. A new management role—the process owner—was created to oversee product development in the calculator unit. Budgeting was done by process instead of by department. Office space was reconfigured to better accommodate and support the process teams. The unit’s senior managers took every opportunity to underscore the importance of a process perspective through formal presentations, writings, and informal conversations.

As a result of the changes, the calculator unit has become much more successful in introducing new products. The time it takes to launch new products has dropped by as much as 50%, break-even points have been reduced by 80%, and the unit has become the market leader in product categories where it previously had no share whatsoever. The overall return on investment in product development has more than quadrupled.

IBM went through a similar transformation a few years later. Seeing that its large corporate customers were increasingly operating on a global basis, IBM knew it would have to standardize its operations worldwide. It would have to institute a set of common processes for order fulfillment, product development, and so forth to take the place of the diverse processes that were then being used in different parts of the world and in different product groups. But the change effort immediately ran into an organizational roadblock. IBM’s existing man-

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In many businesses, horizontal processes pull people in one direction; traditional vertical management systems pull them in another. Confusion and conflict ensue.
the process, but the various people who perform the process still report to the unit heads. That kind of split in authority may be hard for many executives to imagine, but there are companies that are making it work today.

One example is Duke Power, a true pioneer of the process enterprise. The electric utility arm of Duke Energy, Duke Power serves nearly 2 million customers in North and South Carolina. In 1995, with deregulation looming, it realized that it had to do a much better job of customer service if it was to survive the onslaught of competition. But the existing organizational structure of Customer Operations, the business unit responsible for delivering electricity to customers, was getting in the way of service enhancements. The unit was divided into four regional profit centers, and the regional vice presidents, overwhelmed by an endless stream of administrative duties, had little time for wrestling with the details of service provision. And even if they had, there was no way to coordinate their efforts across the regions. No one, in short, was responsible for how the company was delivering value to customers.

To solve the problem, Duke Power identified five core processes that together encompassed the essential work that Customer Operations performed for customers: Develop Market Strategies, Acquire and Maintain Customers, Provide Reliability and Integrity, Deliver Products and Services, and Calculate and Collect Revenues. Each process was assigned an owner, and the five process owners, like the four existing regional vice presidents, reported directly to the head of Customer Operations.

In the new structure, the regional vice presidents continue to manage their own workforces—the process units have only small staffs—but the process owners have been given vast authority over how the company operates. First, they are responsible for designing their respective processes. They define how work will proceed at every step, and the regions are expected to follow those designs. Second, and just as important, the process owners are responsible for setting performance targets, establishing budgets, and distributing those budgets among the regions. In other words, while the regions continue to have authority over people, they are evaluated on the basis of how well they meet the targets set by the process owners, and their budgets are in large part roll-ups of the monies disbursed by the process owners. The regional vice presidents have no choice but to work in partnership with the process owners.

The new structure has proven to be a great success, focusing the entire organization much more directly on the customer. Virtually every activity involved in serving customers has been redesigned from the ground up. For example, the process owner for Deliver Products and Services, Rob Manning, has worked with the regional units, with suppliers, and with his own ten-person staff to devise a new way to organize warehouse facilities. Parts that will be required by installation crews, for example, are laid out the night before for easy pickup in the morning, so that the crews can load their trucks and be on the road in 10 minutes, a fraction of the 70 minutes it used to require. The crews can do more installations in a day, so customers don’t have to wait as long to get service.

Manning has also revamped the way the company works with its building-contractor customers. As recently as late 1996, Duke Power was meeting only 30% to 50% of its commitments to those customers—laying cables by a certain date, for example. That created difficulties, as those customers based their construction schedules around Duke Power’s promised dates. The problem was that the people making the commitments did not have an accurate picture of the availability of individual field-workers. They could not ensure, therefore, that the required skills would be in the right place at the appointed date. Manning and his team deployed a new scheduling system that provides much more detailed information about the availability of field personnel, enabling more specific and accurate assignments. They also designated people to negotiate commitment dates with contractors and keep them apprised of changes. Finally, they underscored the importance of meeting commitments to customers by measuring the percentage of deadlines met and by publicizing each region’s results on a daily basis. Duke Power now meets 98% of its construction commitments.

A New Style of Management
Duke Power has learned that becoming a process enterprise is more than a matter of establishing new management posts and rejigger-
ing responsibilities. As lines of authority become less clear-cut, the way managers interact with one another and with workers also has to change. Style is as important as structure. Process owners, for example, can’t simply order process workers to do their bidding. They have to work through the unit heads—the regional VPs, in Duke Power’s case. Manning says that his role requires “three critical skills: influence, influence, and influence.” Unit heads, for their part, have to negotiate with the process owners to ensure that the process designs are sound, the process goals reasonable, and the resource allocations fair. The split in authority, in other words, makes cooperation unavoidable. If you don’t work together, you fail.

Duke Power’s managers, like those of most companies, were not accustomed to such a collaborative style. At first, the process owners and regional VPs tended to act more as rivals than as partners. The problem wasn’t resolved until all the managers sat down together and developed a document they called the “decision rights matrix.” The matrix specified the roles the different managers would play for each of the major decisions made in the organization, such as changing a process design, hiring people, setting a budget, and so on. It detailed, for example, which managers would actually make the decision, which had to be consulted beforehand, and which had to be informed afterward. In effect, the matrix was the organization’s road map for managerial teamwork. Today, the managers rarely have to consult the matrix—they’ve internalized it. But the specificity and clarity of the matrix gave the managers a concrete sense of how the new organization would work, and the very process of creating it gave them an appreciation for the new, more collaborative style of management.

The five process owners also had to learn to collaborate closely with one another. Processes, after all, aren’t islands onto themselves. They overlap, since the same workers are often involved in several processes, sometimes simultaneously. At Duke Power, for example, the same group of field personnel installs lines (part of Deliver Products and Services) and maintains them (part of Provide Reliability and Integrity). Initially, that overlap created a conflict. Installations almost always had hard deadlines, reflecting customers’ need for precise commitment dates, but maintenance jobs often did not. As a result, maintenance kept getting pushed to the back burner. The two process owners got together to work out a new arrangement: certain field personnel would be dedicated to each process, and the rest would form a floating pool available to work on either process. The Provide Reliability and Integrity process owner also agreed to schedule routine maintenance in the spring and fall whenever possible, creating greater installation capacity during the summer, when demand was highest. In addition to meeting informally to solve particular process conflicts, the five process owners meet regularly in formal sessions with their boss, the head of Customer Operations, to review and coordinate operational plans, budgets, performance measures, and the like.

If a company is going to make itself over into a process enterprise, it needs to change not only the way its managers interact with one another but also the way they relate to frontline workers. Process teams composed of individuals who have broad pro cess knowledge and who are measured on process performance have little need—or room—for traditional supervisors. The teams themselves take over most of the managerial responsibilities usually held by supervisors. Supervisors, in turn, become more like coaches, teaching the workers how to perform the process, assessing their skills, overseeing their development, and providing assistance when requested. At Duke Power, in fact, the once ubiquitous foreman position has disappeared entirely, replaced by a new role—the process coordinator.

Because the coordinator coaches rather than controls the people who perform the process, Duke’s traditional ten-to-one span of supervisory control has widened dramatically; the typical process coordinator supports 30 to 40 people. (In some companies, the number is as high as 70.) There are also now far fewer managerial levels at Duke; instead of six levels between the front line and the regional vice president, there are only three. And as the process owners have taken over some of the former responsibilities of the regional vice presidents, the VPs, too, have become more focused on training and developing their people. One Duke Power executive calls them “super coaches.”

The process owners also play an important,
In a process enterprise, the key structural issue is no longer centralization versus decentralization; it's process standardization versus process diversity.

Second, a company with standardized processes presents one face to its suppliers and customers, reducing transaction costs both for them and for itself. By standardizing its procurement process across all its business units, IBM has been able to create a single list of approved vendors, enabling the company to aggregate its purchases and giving it much more leverage over suppliers. Owens Corning has standardized its order fulfillment process across all its divisions, which share many of the same customers. That's great for customers—they only have to submit one order, receive one invoice, and pay one bill. It's also great for Owens Corning, which has saved millions in logistics costs by consolidating shipments from different divisions.

Third, and perhaps counterintuitively, process standardization can increase organizational flexibility. When all business units are performing a process the same way, a company can easily reassign people from one unit to another to respond to shifts in demand. Its organizational structure becomes much more plastic.

As compelling as the arguments for standardization are, process diversity offers one big advantage: it allows different kinds of customers to be served in different ways. The industrial customers who buy Texas Instruments' digital signal processing chips to put in their cameras and cellular telephones require rapid responses to design changes, whereas the retailers who sell calculators demand fast replenishment of standard products. Trying to serve both groups with the same order fulfillment process would backfire, leaving each dissatisfied. Recognizing that fact, Texas Instruments allows its business units to design and manage their own order fulfillment processes.

Some companies have decided to standardize certain processes but not others. Hewlett-Packard, for example, standardizes procurement to gain leverage with vendors, but it allows a variety of product development processes, reflecting the wide variation in its products and in the customers who buy them. Johnson & Johnson has largely standardized its R&D processes throughout its pharmaceutical business units to encourage them to share people and ideas and to enable all R&D projects to be managed as a single coherent portfolio. At the same time, different units go their own ways in designing sales and manufacturing
The Infrastructure of the Process Enterprise

Traditional ways to measure performance, determine compensation, provide training, and even organize facilities are tailored to vertical units, not processes, and to individuals, not teams. Companies making the shift to a process enterprise will need to take a fresh look at many of the basic elements of their organizational infrastructure.

**Measurement**
Most businesses lack rigorous measures for their processes. They may know their manufacturing costs and their product sales down to the penny, but they don’t know exactly how often they fill orders flawlessly or precisely how long it takes a new product to go from conception to profitability. Indeed, they’re usually not even sure what aspects of their processes they ought to be measuring. Their measurement systems conform to the very organizational boundaries that their processes transcend.

In moving to a process enterprise, therefore, managers need to conduct a thorough analysis to determine what aspects of process performance are most directly linked to achieving the organization’s overall objectives. Duke Power has conducted such an analysis. It identified its overarching strategic goals—such as providing reliable and competitively priced electric power and hassle-free customer service—and has determined how each of its processes would affect those goals. It then established relevant process performance measures. For the Deliver Products and Services process, the measures include the percentage of projects completed by the date promised to the customer, the percentage of installations done correctly the first time, and the time it takes the call center to respond to a customer’s inquiry. Measures for the Provide Reliability and Integrity process include the number of outages, the number of outages lasting more than two hours, and the accuracy of restoration times given to customers who have lost power.

Process owners not only use the metrics to track the status of a process and guide improvement efforts, they also disseminate them throughout the organization to reinforce people’s awareness of the process and to focus them on its performance. Since the same process measures are used to gauge the performance of everyone involved in the process, the metrics also help to reinforce teamwork.

**Compensation**
If frontline personnel and managers are to focus on processes, their compensation should be based at least in part on how well the processes perform. All process teams at Allmerica Financial have concrete performance goals set by the process owners, such as targets for the time required to process applications and the percentage of contracts issued without errors. The team members receive bonuses based on achieving those goals, and the process owners can award additional bonuses to members who make outstanding contributions. At American Standard, the compensation of process owners is based on three factors: process performance, business sector performance, and corporate performance. The heads of regional business units at Duke Power are assessed not only on the bottom line of their regions but also on how well they meet their process goals.

**Facilities**
In most companies, people are housed in vertical departments, according to their function, their region, or their business unit. But because processes cut across those vertical divisions, process workers need to be drawn from them into a new location where they can work as a team. At Owens Corning, for instance, many different employees are involved in filling an order, from customer service representatives to transportation coordinators to accounting personnel. In the past, each of those people worked in a separate location, surrounded by others in the same functional specialty. Now all those involved in order fulfillment are located together. By sharing the same facility, they get a better view of the entire process, and they are able to exchange ideas easily. American Standard has undertaken a radical program of co-location, creating shared spaces for all of its process teams. When all work is process work, all space becomes process space.

**Training and Development**
In traditional organizations, many people have relatively narrow jobs and need to know little outside the scope of their own department. For a process team to succeed, however, all the members must understand the whole process and how their individual efforts contribute to it. Usually, workers will need to be trained to take on their broadened roles. Duke Power, for instance, puts all its linemen through a class called ”Thriving in a Process Organization,” which gives them a basic grounding in the electric power industry, covering such topics as deregulation, utility cost structures, and customer requirements. It also gives them an appreciation of the concept of a business process, a detailed understanding of their own process, and training in the personal skills needed to work collaboratively.

**Career Paths**
There is less need for middle managers in a process organization than in a traditional one. Process owners design and measure the process, and process teams carry it out, overseeing their own work and making all the day-to-day operating decisions required to keep things moving smoothly. As a result, most of the rungs on the traditional managerial career ladder disappear. A process enterprise therefore needs to develop new career models that are not based on traditional hierarchical advancement. Allmerica Financial, for instance, offers employees two new career models. One is based on mastering a specific insurance discipline, such as claims handling. Claims personnel who develop greater knowledge and skills are assigned more complex claims and get a higher base pay—without a formal change in level. The other model offers a career path through many parts of the company—from claims to IT to underwriting, for instance.
processes tailored to the unique characteristics of their products.

Our rule of thumb is that companies should standardize their processes as much as possible without interfering with their ability to meet diverse customers’ needs. However, we have learned that it's usually harder to impose standardized processes than to allow diversity. A corporate executive proposing standardization will almost certainly be met with a chorus of “but we're different” from divisional general managers. Some of the resistance may reflect legitimate concerns about whether a standard process can meet the needs of different units and different customers—and in those cases standardization may indeed be a mistake. But the resistance may simply be the death rattle of divisional autonomy. General managers are accustomed to seeing themselves as entrepreneurs running their own businesses; the corporate center is supposed to give them resources and demand results but otherwise keep out of their way. While corporate executives should be prepared for this reaction, they should not give in to it. The rewards of standardized processes are great, and they're worth fighting for.

Making the Transition
Making the shift to a process enterprise involves much more than just redrawing an organizational chart. The changes we've discussed are fundamental ones, representing new ways of managing and working, and they are not easy to make. They require the full attention and commitment of the organization. Unfortunately, most companies today are swimming—or sinking—in a sea of change programs. (One large retailer we’ve studied stopped counting after 250.) The proliferation of change efforts causes harm in many ways: it consumes resources, creates confusion, and encourages cynicism. Before launching a process enterprise initiative, management needs to take a hard look at all its change programs, pruning those that aren't relevant to process management and merging those that are. Distractions must be kept to a minimum.

The move to a process enterprise should be connected with an overarching strategic initiative. At American Standard, for instance, the building of a process enterprise was positioned as a way to achieve the company’s long-term goal of reducing working capital by slashing cycle times and inventory levels. At Owens Corning, the effort was linked with the ERP implementation. At Duke Power, it was tied to deregulation, and at IBM, it was connected to creating a truly global business. Other companies have linked their programs to a move into electronic commerce, the implementation of a merger, or the integration of a supply chain.

One particularly effective way to underscore the importance of the effort—and to help ensure its success—is to appoint high-profile, respected executives as process owners. By putting its best people in these positions, management emphasizes the high priority it places on process management and ensures that the process owners will be taken seriously.

In addition to being focused on the transition, organizations need to have a realistic sense of the sacrifices and disruptions it will entail. A shift to a pro-cess enterprise isn't a quick fix; it doesn't happen overnight. American Standard announced its transformation into a process enterprise on January 1, 1995, but it hasn't yet completed its journey. IBM, Duke Power, and the other companies we have discussed are also still working on aligning some aspects of their businesses with their processes. Executives need to prepare themselves for years of effort and set the organization's expectations accordingly.

Not everything needs to be done at once, of course. Process owners should be appointed immediately, as they will guide the entire effort. A process-based measurement system should be established at the outset to track the effort's progress. But expenditures on employee-training programs, compensation systems, and other costly or complex infrastructural elements can often be deferred. (See the sidebar “The Infrastructure of the Process Enterprise.”) Instead of trying to build a companywide infrastructure at the start, it's best to focus first on achieving some tangible benefits quickly. Without clear early signs that the desired gains will materialize, people will grow anxious and begin to resist the changes, and the entire effort will lose momentum. At Texas Instruments, for example, the success of the product development process helped convince the organization of the virtue of process management, and the company is now extending the approach into supply-chain, retailer-engagement, and other processes.

Companies with many business units have sometimes found it useful to designate one
unit to take the lead. That unit becomes a kind of organizational prototype. Through its experience, the company as a whole can identify and rectify problems, promote benefits, and set a course for others to follow. At John Deere, for instance, two divisions have taken the lead in becoming process organizations: John Deere Healthcare and one of the equipment-manufacturing units, the Worldwide Construction Equipment division. Other divisions within the company now have the opportunity to learn from their experiences and build on their best practices.

Because the changes involved in becoming a process enterprise are so great, companies can expect to encounter considerable organizational resistance. We have found, though, that it’s rarely the frontline workers who impede the transformation. Once they see that their jobs will become broader and more interesting, they are generally eager to get on board. Rather, the biggest source of resistance is usually senior functional executives, division heads, and other members of the top management team. These senior executives will often either resent what they see as a loss of autonomy and power or be uncomfortable with the new, collaborative managerial style. If allowed to become visible, their reluctance will soon be amplified throughout the rest of the organization. CEOs, therefore, need to take particular care in communicating to unit heads, involving them in the change effort, and gaining their full commitment. They should be prepared to dismiss anyone who steadfastly refuses to support the initiative. In our experience, it is not uncommon for anywhere from a quarter to a half of the senior team to leave—voluntarily or otherwise—during the changeover.

**Looking to the Future**

Given the challenge of shifting from a traditional business to a process enterprise, some may wonder if it’s worth it. We believe that, for most companies, there is really no alternative. Process management is not merely a way to address specific problems—poor quality, say, or high costs. It is a platform for capitalizing on new opportunities.

Take e-commerce. The cutthroat world of the Internet places a premium on the swift and flawless execution of processes. As Amazon.com and other e-commerce leaders have discovered, if you deliver orders on time and with no problems, customers return to your site. If you botch orders, customers won’t give you a second chance. Putting a Web site in front of a flawed process merely advertises its flaws. The same goes for business-to-business e-commerce. If your processes are not totally reliable, you can forget about being a supplier to Dell or any other of today’s turn-on-a-dime manufacturers.

But just as important as having smooth, efficient processes is being able to redesign those processes on the fly. From order fulfillment to customer service to procurement, operating processes are rarely fixed any more. They must change their shape as markets change, as new technologies become available, and as new competitors arrive. Look at IBM. Having successfully redesigned most of its processes over the last few years, it is now redesigning them all over again to make them compatible with the Web. Without the flexibility inherent in a process enterprise, it would be next to impossible for IBM, or any company, to shift processes quickly without disrupting its entire business. A process enterprise is the organizational form for a world in constant change.
Further Reading

*How Process Enterprises Really Work* is also part of the *Harvard Business Review* OnPoint collection *Ignore Operations at Your Peril*, Product no. 6565, which includes these additional articles:

**The Superefficient Company**  
Michael Hammer  
*Harvard Business Review*  
September 2001  
Product no. 7699

**Deep Change: How Operational Innovation Can Transform Your Company**  
Michael Hammer  
*Harvard Business Review*  
April 2004  
Product no. 6573