Ignore Operations at Your Peril

The secret to sustainable growth is simple: Out-operate your competitors.

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   by Michael Hammer

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    by Michael Hammer and Steven Stanton

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    by Michael Hammer
### Collection Overview

Need to boost performance? No problem. You can run rings around your competitors without pumping money into acquisitions, advertising campaigns, or bleeding-edge technologies. All you need to do is innovate the way your company handles operations. That’s right, operations.

Creating new ways of doing work can lead to radical performance gains. Companies that innovate their operations—think Dell with its direct business model or Progressive Insurance with its Immediate Response claims handling—can trounce competitors and even change entire industries. That’s because time, cost, and customer satisfaction all get major boosts from operational innovation.

So how do you make operations a strategic weapon for your company? This Harvard Business Review OnPoint collection offers three suggestions:

1. First, convince your managers of the untapped power of operational innovations, then bake an innovative mindset into your company’s culture.
2. Next, streamline your core internal processes—combining related activities from separate units and cutting ones that don’t add value—then build management structures to support those activities.
3. Then, rigorously coordinate processes with your suppliers and customers to eliminate wasteful duplication of work and costly errors.

Taken together, the articles in this collection will help you unleash the power of operations to put you—and keep you—ahead of the pack.

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<td>To create operational innovation in your own company, look for role models outside your industry then identify—and defy—constraining assumptions about how work should be done. And to get the biggest bang for your buck, concentrate on reinventing work processes that have the most strategic impact. To ensure that your processes are truly innovative instead of just improved, set performance targets that are unreachable by standard operating procedures. Operational innovation may seem unglamorous, but it is the only lasting basis for superior performance.</td>
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<td>If you’re serious about operational innovation, you’ve got to build management structures to support your new processes. Hammer and Stanton show how forward-thinking companies like IBM and Duke Power have begun to make the leap from process redesign to process management. They’ve shifted performance and measurement goals, made cultural changes that stress teamwork over turf, and changed the way they train and assign employees. Their organizations, as a result, are becoming much more flexible, adaptive, and responsive.</td>
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<td>Once you’ve streamlined your internal processes, look for innovations in the operations you share with other companies. To tear down walls between your company and its partners, simplify supply-chain processes first. For example, enable your customers to enter their own orders and check order status. Then, consider a radical form of operational collaboration between noncompetitive suppliers who share similar resources (such as warehouses or trucks) to serve the same customers. Integrate distribution processes—and watch costs evaporate.</td>
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Deep Change
How Operational Innovation Can Transform Your Company

by Michael Hammer

Included with this full-text Harvard Business Review article:

3 Article Summary
The Idea in Brief—*the core idea*
The Idea in Practice—*putting the idea to work*

4 Deep Change: How Operational Innovation Can Transform Your Company

13 Further Reading
A list of related materials, with annotations to guide further exploration of the article’s ideas and applications

Product 6573
Deep Change
How Operational Innovation Can Transform Your Company

The Idea in Brief
When struggling with stagnant growth—as many of us are today—do you look to acquisitions, aggressive marketing, or new technologies to rev up your revenues? If so, you may be missing a much more reliable way to outperform your competition—operational innovation.

Creating new ways, not just better ways, of working has been central to some of business’s greatest success stories: think Walmart’s cross-docking distribution system, or Dell’s build-to-order model. But since operations aren’t sexy, most companies overlook them.

To set the stage for operational innovation in your company, first convince managers that it will work—show them successes at other companies or pockets of innovation in your own business. Concentrate on reinventing work processes that will have the greatest strategic impact. And, to ensure that your processes are truly innovative instead of just improved, set performance targets unreachable by standard operating procedures.

Operational innovations fuel extraordinary results. Progressive Insurance completely reinvented claims processing—slashing the waiting time for vehicle repair estimates from ten days to nine hours and catapulting sales from $1.3 billion in 1991 to $9.5 billion in 2002. Companies that bake operational innovation into their culture, as Progressive did, make competitors continually scramble to keep up.

The Idea in Practice
Time, cost, and customer satisfaction all get major boosts from operational innovations. Here are guidelines for reinventing your own work processes:

LOOK FOR ROLE MODELS OUTSIDE YOUR INDUSTRY.
Benchmarking within your own industry probably won’t lead to breakthrough innovations. Instead, find operating techniques that have been successful in other industries and apply them to your business.

Example:
Taco Bell transformed its restaurant operations by thinking about them in manufacturing—not fast-food—terms. The chain outsourced production of key ingredients so it could focus on “assembly,” not “fabrication,” in its restaurants. The approach cut Taco Bell’s costs and increased customer satisfaction by ensuring a consistently high-quality product.

IDENTIFY AND DEFY A CONSTRAINING ASSUMPTION.
Every operational innovation defies conventional assumptions about how work should be done. Zero in on the assumption that interferes with achieving your strategic goal and then get rid of it. A hospital, for instance, was able to respond to physician referrals more quickly when it challenged the assumption that beds had to be assigned before patients could be accepted. Now it assigns the bed after accepting the patient—while that person is en route.

Example:
In 2002, Shell Lubricants reconsidered who needed to participate in its order fulfillment process. By replacing a group of seven people who each handled different parts of the order with one person who does it all, Shell cut cycle time by 75%, reduced operating expenses by 45%, and boosted customer satisfaction by 105%.

MAKE THE SPECIAL CASE THE NORM.
Companies often achieve extraordinary levels of performance under extraordinary conditions. The trick is to turn your do-or-die mode into everyday practice.

Example:
A packaged-goods maker had relied on sales forecasts for production scheduling.
Deep Change
How Operational Innovation Can Transform Your Company

by Michael Hammer

In 1991, Progressive Insurance, an automobile insurer based in Mayfield Village, Ohio, had approximately $1.3 billion in sales. By 2002, that figure had grown to $9.5 billion. What fashionable strategies did Progressive employ to achieve sevenfold growth in just over a decade? Was it positioned in a high-growth industry? Hardly. Auto insurance is a mature, 100-year-old industry that grows with GDP. Did it diversify into new businesses? No, Progressive's business was and is overwhelmingly concentrated in consumer auto insurance. Did it go global? Again, no. Progressive operates only in the United States.

Neither did it grow through acquisitions or clever marketing schemes. For years, Progressive did little advertising, and some of its campaigns were notably unsuccessful. It didn’t unveil a slew of new products. Nor did it grow at the expense of its margins, even when it set low prices. The proof is Progressive’s combined ratio (expenses plus claims payouts, divided by premiums), the measure of financial performance in the insurance industry. Most auto insurers have combined ratios that fluctuate around 102%—that is, they run a 2% loss on their underwriting activities and recover the loss with investment income. By contrast, Progressive’s combined ratio fluctuates around 96%. The company’s growth has not only been dramatic—it is now the country’s third largest auto insurer—it has also been profitable.

The secret of Progressive’s success is maddeningly simple: It outoperated its competitors. By offering lower prices and better service than its rivals, it simply took their customers away. And what enabled Progressive to have better prices and service was operational innovation, the invention and deployment of new ways of doing work.

Operational innovation should not be confused with operational improvement or operational excellence. Those terms refer to achieving high performance via existing modes of operation: ensuring that work is done as it ought to be to reduce errors, costs, and delays but without fundamentally changing how that work gets accomplished. Operational innova-
tion means coming up with entirely new ways of filling orders, developing products, providing customer service, or doing any other activity that an enterprise performs.

Operational innovation has been central to some of the greatest success stories in recent business history, including Wal-Mart, Toyota, and Dell. Wal-Mart is now the largest organization in the world, and it owns one of the world’s strongest brands. Between 1972 and 1992, Wal-Mart went from $44 million in sales to $44 billion, powering past Sears and Kmart with faster growth, higher profits, and lower prices. How did it score that hat trick? Wal-Mart pioneered a great many innovations in how it purchased and distributed goods. One of the best known of these is cross-docking, in which goods trucked to a distribution center from suppliers are immediately transferred to trucks bound for stores—without ever being placed into storage. Cross-docking and companion innovations led to lower inventory levels and lower operating costs, which Wal-Mart translated into lower prices. The rest is history. Although operational innovation wasn’t the sole ingredient in Wal-Mart’s success—its culture, strategy, human resource policies, and a host of other elements (including operational excellence) were also critical—it was the foundation on which the company was built.

Similar observations can be made about Dell and Toyota, organizations whose operational innovations have become proper nouns: the Dell Business Model and the Toyota Production System. Each of these three companies fundamentally rethought how to do work in its industry. Their operational innovations dislodged some of the mightiest corporations in the history of capitalism, including Sears, General Motors, and IBM.

These stories are well known for two reasons. First, the stories are worth telling: Operational innovations fuel extraordinary results. But the stories are also repeated because there are, frankly, not many of them. Operational innovation is rare. By my estimate, no more than 10% of large enterprises have made a serious and successful effort at it. And that shouldn’t be. Executives who understand how operational innovation happens—and who also understand the cultural and organizational barriers that prevent it from happening more often—can add to their strategic arsenal one of the most powerful competitive weapons in existence.

The Payoffs
For most of its history, Progressive focused on high-risk drivers, a market that it served profitably through extremely precise pricing. But in the early 1990s, the insurer believed that much larger companies were about to enter this niche and emulate its approach to pricing; the company’s managers realized it couldn’t compete against larger players on a level playing field. So Progressive decided to win the game by changing the rules. It reinvented claims processing to lower its costs and boost customer satisfaction and retention.

The company introduced what it calls Immediate Response claims handling: A claimant can reach a Progressive representative by phone 24 hours a day, and the representative then schedules a time when an adjuster will inspect the vehicle. Adjusters no longer work out of offices from nine to five but out of mobile claims vans. Instead of taking between seven and ten days for an adjuster to see the vehicle, Progressive’s target is now just nine hours. The adjuster not only examines the vehicle but also prepares an on-site estimate of the damage and, if possible, writes a check on the spot.

This approach has many benefits. Claimants get faster service with less hassle, which means they’re less likely to abandon Progressive because of an unsatisfactory claims experience. And the shortened cycle time reduced Progressive’s costs dramatically. The cost of storing a damaged vehicle or renting a replacement car for one day—around $28—is roughly equal to the expected underwriting profit on a six-month policy. It’s not hard to calculate the savings this translates into for a company that handles more than 10,000 claims each day. Other benefits for Progressive are an improved ability to detect fraud (because it is easier to conduct an accident investigation before skid marks wash away and witnesses leave the scene), lower operating costs (because fewer people are involved in handling the claim), and a reduction in claim payouts (because claimants often accept less money if it’s given sooner and with less travail).

No single innovation conveys a lasting advantage, however. In addition to Immediate Response, Progressive has also introduced a system that allows customers to call an 800 number or visit its Web site and, by providing a small amount of information, compare Progressive’s rates with those of three competitors.
Deep Change

(Because insurance is a regulated industry, rates are on file with state insurance commissioners.) This offer has attracted customers in droves.

The company has also devised even better ways of assessing an applicant’s risk profile to calculate the right rate to quote. When Progressive realized that an applicant’s credit rating was a good proxy for responsible driving behavior, it changed its application process. Now its computer systems automatically contact those of a credit agency, and the applicant’s credit score is factored into its pricing calculation. More accurate pricing translates into increased underwriting profit. Put these all together, and Progressive’s remarkable growth becomes comprehensible.

Other companies have made similar performance gains through operational innovations. Beginning in 1994, Eastern Electric, a UK power utility, created a process that reduced the time needed to initiate electrical service by 90% and its cost by 66%. In the late 1990s, IBM invented a new product-development process that caused a 75% reduction in the time to develop new products, a 45% reduction in development expenses, and a 26% increase in customer satisfaction with these new products. In 2002, Shell Lubricants reinvented its order fulfillment process by replacing a group of people who handled different parts of an order with one individual who does it all. As a result, Shell has cut the cycle time of turning an order into cash by 75%, reduced operating expenses by 45%, and boosted customer satisfaction 105%—all by introducing a new way of handling orders. Time, cost, and customer satisfaction—the dimensions of performance shaped by operations—get major boosts from operational innovation.

Organizational Barriers
Compared with most of the other ways that managers try to stimulate growth—technology investments, acquisitions, major marketing campaigns, and the like—operational innovation is relatively reliable and low cost. So why don’t more companies embrace it?

The question is particularly significant because operational innovation is needed now more than ever. Most industries today are struggling with low-growth, even stagnant, markets. Overcapacity is rampant, and competition—particularly global competition—is fierce. Virtually all product and service offerings have become commodities, almost no one has any pricing power, and none of this is likely to change in the near future. In this environment, the only way to grow is to take market share from competitors by running rings around them: by operating at lower costs that can be turned into lower prices and by providing extraordinary levels of quality and service. In other words, the game must now be played on the field of operations.

Mere operational improvement is not enough to win the game. Excellence in execution can win a close game, but it can’t break a game wide open and turn it into a rout. The only way to get and stay ahead of competitors is by executing in a totally different way—that is, through operational innovation.

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A Powerful Weapon

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Innovative operations can result in direct performance improvements (faster cycle time and lower costs), which lead to superior market performance (greater customer satisfaction and more highly differentiated products). And improved market performance yields a host of strategic payoffs, from higher customer retention to the ability to penetrate new markets.
But operational innovation entails a departure from familiar norms and requires major changes in how departments conduct their work and relate to one another. It is truly deep change, affecting the very essence of a company: how its work is done. The effects of operational innovation ripple outward to all aspects of the enterprise, from measurement and reward systems and job designs to organizational structure and managerial roles. Thus, it will never get off the ground without executive leadership. Yet senior managers rarely perceive operational innovation as an important endeavor, nor do they enthusiastically embrace it when others present it to them. Why not? The answers hinge on some unpleasant characteristics of contemporary corporate leadership.

Business culture undervalues operations. I have spoken with thousands of managers from hundreds of companies about operational innovation. Overwhelmingly, they’ve told me that their senior executives did not understand, support, or encourage it. As one manager said, “In our company, operations is not glamorous. Deals are.” Making acquisitions, planning mergers, and buying and selling divisions will get the company’s name and the CEO’s picture in business magazines. Redesigning procurement or transforming product development will not, even though it might be much more important to the company’s performance. Deals are easily explained to and understood by boards, shareholders, and the media. They offer the prospect of nearly immediate gratification, and the bold stroke of a deal is consistent with the modern image of the executive as someone who focuses on grand strategy and leaves operational details to others. The fact that the great majority of deals are unsuccessful does not deter executives from pursuing them.

Operations simply aren’t sexy. One business school student recently observed to me, “There seems to be a hierarchy in the business world. Finance and strategy are at the top, marketing and sales occupy the middle tier, and operations is at the bottom.” An insurance CEO once quipped that managers work hard at operations so they can be promoted to the executive level, where they can stop worrying about operations. A journalist at a prominent business magazine, assigned to do a story on operations, confessed that he thought it boring. This is the state of our business culture. The core, value-creating work of enterprises has become low status.

Operations are out of sight (and out of mind-set). At its heart, operations is a branch of engineering. It requires a skill set and a mind-set different from those needed in most other executive activities. Most senior managers focus on strategic planning, budgeting, capital allocation, financial management, mergers and acquisitions, personnel issues, regulatory concerns, and other macro issues, very different from the design work at the heart of operational innovation. Many top managers are ignorant about operations and uninterested in learning more. They’ve ascended to the highest levels of the enterprise without ever getting their hands dirty. They enter the organization through finance, strategy, or marketing and build their reputations on work in these domains. When they move into their first general management role, they rely on others—plant managers, engineers, customer service leaders—to mind the details of the actual work. Their role is one of supervision, resource allocation, and direction—all vital, but all perched precariously on a foundation not grounded in the bedrock of the organization’s real work.

At a major semiconductor maker, for instance, a group of middle managers who were frustrated with the complexity and poor performance of their order fulfillment process decided to make a case for change to executive management. They created a two-page diagram illustrating the endless series of steps every order went through, the redundant moves of the product between factories and depots, the accumulations of inventory, and the enormous delays. When members of the company’s executive committee saw it, they were incredulous: “We do this?”

It should not be surprising that executives without experience in operations do not look there for competitive advantage. The information they usually get does little to focus their attention on the mechanics of operations. How many executives receive data about order fulfillment cycle time, or the accuracy of customer service responses, or the cost of each procurement transaction, or the percentage of parts that are reused in new products? Indeed, in how many organizations is such information available at all? Financial data dominate the discourse in the modern organization, al-

Operational innovation is truly deep change, affecting the very essence of a company: how its work is done. The effects ripple outward to all aspects of the enterprise.
though operational performance is the driver of financial results.

Nobody owns it. No one holds the title Vice President of Operational Innovation; it is organizationally homeless. It doesn’t fit into R&D, where product innovation is based. Functional line managers are too focused on meeting deadlines to have time for or interest in inventing new ways of doing things. What’s more, important innovations are not limited to individual departments but involve end-to-end processes that cross departmental boundaries. Normal planning and budgeting focus on investments in new equipment, products, and services and take account of process improvement. It’s a rare company whose budget or planning process explicitly looks for process breakthroughs. No wonder operational innovation has a hard time gaining traction in an organization.

This is particularly problematic because operational innovation can easily founder in a sea of competing but smaller change initiatives. It is all too common for enterprises today to have dozens—even hundreds—of operational improvement programs under way at any point in time. Some are technologically based, such as the implementation of enterprise resource planning (ERP), customer relationship management (CRM), or supply chain management (SCM) software systems. Others are centered on specific bodies of improvement techniques, such as Six Sigma quality or lean enterprise programs. Still others are defined in terms of outcomes, such as accelerating time to market or presenting a single face to customers, or focused on improving a particular aspect of the enterprise (procurement or customer service, for example). Each project typically has a narrow scope, a group of experts dedicated to it, and a sponsor whose enthusiasm is tolerated by his or her peers only as long as it is kept within bounds.

This kind of situation can cripple operational innovation because an organization has only so much capacity for change. If people are already juggling a great many improvement projects, they may conclude that they can’t handle an innovation effort as well. Indeed, in a company consumed with improvement projects, the distinction between improvement and innovation may be lost. Improvement projects can also get in the way of innovation efforts by appearing to address similar issues. For instance, many companies implementing ERP or SCM systems merely use them to enhance existing processes. Real innovations in order fulfillment or supply chain management are also likely to involve these technologies, but they may be dismissed because, people think, “we’re already doing ERP.”

Making It Work

How do operational innovation efforts begin if no one is responsible for them and no formal channels for creating programs exist? Most often they start as grassroots movements, fostered by people sprinkled throughout organizations who are passionately committed to finding and exploiting opportunities for operational innovation. These catalysts take it upon themselves to find a leader who can grasp what they have in mind and then spearhead the innovation effort. The executive must have both the imagination and the charisma needed to drive major operational change.

Then the catalysts relentlessly campaign for the cause—confronting the executive with the inadequacies of existing operations and arranging for meetings with peers from other companies that have successfully implemented operational innovations. The campaign will be helped immensely if catalysts can tout existing pockets of operational innovation within their own organization. Maybe one plant implemented a new way of scheduling production, or a customer service center used a CRM system in a new way, or a sales team created a new way to support customers. Examples like these will help convince a leader that operational innovation can work.

Once the top executive is convinced that operational innovation is worth pursuing, the organization needs to focus its efforts. Because operational innovation is by nature disruptive, it should be concentrated in those activities with the greatest impact on an enterprise’s strategic goals.

Progressive, for instance, realized that the key to its profitable growth is customer retention because acquiring new customers through commission-based agents is very expensive. And the key to customer retention is making sure customers have rewarding interactions with the company. That’s why Progressive concentrated on streamlining claims; making it a more pleasant experience for customers would...
directly affect overall performance. Many auto insurers, by contrast, view claims as a nuisance at best because it entails paying claimants. They consider it to be a low-priority activity that doesn’t deserve attention.

Or consider how American Standard, the diversified manufacturer, decided where to focus its innovation efforts in the early 1990s. It had just survived a hostile takeover bid by going through a leveraged buyout, and leaders realized that servicing the debt would consume virtually all the company’s available cash and starve product development efforts. Because a large amount of cash was tied up in inventories, the CEO mandated that the company would have to drive down its working capital and dramatically increase inventory turns. A program was instituted to transform manufacturing from a conventional push-based system to one pulled by actual demand using a system known as Demand Flow Manufacturing. The innovation paid off and led to a successful IPO a few years later.

Using similar analyses, other companies have pinpointed procurement, order fulfillment, new product development, post-sales customer support, and even budgeting as the place where innovation would have the greatest effect on achieving key strategic goals. While operational innovation need not be confined to just one area, most companies find it prudent to limit their innovation programs to no more than two or three major efforts at a time. To undertake more would probably consume too many resources and create too much organizational disruption.

After selecting the area for innovation, the company must set stretch performance goals. At American Standard, the goal was to triple its inventory turns; at Progressive, to initiate claims within nine hours. Absent such specific targets, innovation efforts are likely to drift or degenerate into incremental improvement projects. Only a daunting target—clearly unattainable through existing modes of operation—will stimulate radical thinking and willingness to overturn tradition.

Inventing a new way of operating that achieves the target need not be simply a matter of crossing your fingers and hoping for inspiration. Following these suggestions should accelerate your efforts.

Look for role models outside your industry. Benchmarking within your own industry is unlikely to uncover breakthrough concepts. But techniques used in other industries with seemingly very different characteristics may turn out to be unexpectedly applicable. For instance, in the 1980s, Taco Bell transformed its restaurant operations by thinking about them in manufacturing rather than in fast-food terms. The restaurant chain reduced the amount of on-site food preparation by outsourcing to its suppliers, centralizing the production of key components, and concentrating on assembly rather than fabrication in the restaurants. The new approach lowered Taco Bell’s costs and increased customer satisfaction by ensuring consistency and by allowing restaurant personnel to focus on customers rather than production. Harvard Pilgrim Health Care has applied techniques of market segmentation, common in consumer goods but not in health insurance, to identify patients most likely to have a medical crisis and to intervene before the crisis occurs.

Identify and defy a constraining assumption. At its heart, every operational innovation defies an assumption about how work should be done. Cross-docking negates the assumption that goods need to be stored in a warehouse, build-to-order that goods should be produced based on forecasts and destined for inventory. Zero in on the assumption that interferes with achieving a strategic goal, and then figure out how to get rid of it. A major hospital, for instance, recognized that to increase the number of patients admitted for (well-reimbursed) cardiac bypass graft operations, it needed to respond more quickly to physicians who wanted to refer a patient. The reason for the delay in response was the assumption that the hospital first had to assign a prospective patient a bed, a supposition that generated hours of delay and often led physicians to send their patients somewhere else. The solution? Send the patient to the hospital immediately, and assign the bed while the patient is in transit.

Make the special case into the norm. Companies often achieve extraordinary levels of performance under extraordinary conditions; their problem is performing extraordinarily in normal situations. One way to accomplish this is to turn the special-case process into the norm. A consumer packaged-goods maker, for instance, based its production scheduling on sales forecasts rather than on actual customer
demand. When demand for a new product wildly exceeded forecasts, an ad hoc process was created that gave the manufacturing division real-time information about customer demand, which in turn allowed them to do production planning and product distribution much more efficiently. After the crisis had passed, the company decided to adopt this emergency mode of operation as its standard one. The results included a dramatic drop in inventory, an improvement in customer service, and a major reduction in the total cost of product deployment.

**Rethink critical dimensions of work.** Designing operations entails making choices in seven areas. It requires specifying what results are to be produced and deciding who should perform the necessary activities, where they should be performed, and when. It also involves determining under which circumstances (whether) each of the activities should or should not be performed, what information should be available to the performers, and how thoroughly or intensively each activity needs to be performed. Managers looking to innovate should consider changing one or more of these dimensions to create a new operational design that delivers better performance. (The exhibit “Reimagining Processes” shows examples of companies that have rethought these various dimensions of work.)

**Getting Implementation Right**

In *The Innovator’s Dilemma*, Clayton Christensen observed that conventional market-analysis tools lead organizations astray when applied to disruptive technologies. In a similar way, conventional implementation methodologies often lead to failure when applied to disruptive modes of operation.

Companies that follow traditional implementation methodologies inevitably take too long. There is so much to be done, and so much that must be integrated with everything else, that years can pass before the innovation is implemented and its benefits start to flow. Furthermore, because every proposed major change in operating procedures is invariably greeted with a chorus of “it will never work,” a lengthy implementation period gives opponents an extended opportunity to campaign against it. In fact, even those who aren’t aggressively opposed to the innovation will find a protracted transition unsettling and disquieting. As more time passes and more money is spent without the innovation or its payoffs seeing the light of day, organizational support leaks away. Executive leadership then loses heart, and the denouement is inevitable.

Another problem with conventional implementation is that it assumes that the initial specifications for an operational innovation will be accurate and complete. In reality, they will be neither. When envisioning new ways of working, it is impossible to get everything right from the outset. Ideas that look good on paper don’t always work as well in practice; only when a concept is actually tried does one learn what it should really have been in the first place. Companies must be prepared to roll with the punches and learn as they go. An ap-

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### Reimagining Processes

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<td><strong>What results</strong> the work delivers</td>
<td>Progressive Insurance increased market share by informing customers of its competitors’ rates as well as its own.</td>
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<tr>
<td><strong>Who performs the work</strong></td>
<td>Shell Lubricants improved cycle time by changing its order fulfillment process so that one person handles all aspects of an order (instead of seven people each working on one aspect).</td>
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<tr>
<td><strong>Where the work is performed</strong></td>
<td>Taco Bell cut costs by preparing ingredients in commissaries rather than in individual restaurants.</td>
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<tr>
<td><strong>When the work is performed</strong></td>
<td>A major hospital responded to physician referrals more quickly by assigning a bed after, rather than before, agreeing to accept a patient.</td>
</tr>
<tr>
<td><strong>Whether the work is performed</strong></td>
<td>Wal-Mart cut costs by cross-docking from truck to truck instead of storing goods in warehouses.</td>
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<tr>
<td><strong>What information</strong> the work employs</td>
<td>A consumer packaged-goods manufacturer reduced inventory by basing its production scheduling on actual orders rather than on forecasts.</td>
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<tr>
<td><strong>How thoroughly</strong> the work is performed</td>
<td>Harvard Pilgrim Health Care cuts costs by carefully analyzing patients to identify those who need intervention before a crisis strikes.</td>
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Parel manufacturer had to regroup when the technology underlying its plans for a new approach to production scheduling did not live up to expectations; a consumer goods maker had to scale back an innovation in logistics when its implementation became more difficult than expected.

Companies need to adopt a new approach to implementing operational innovations. This alternative method builds on an idea that is popular in software product development, an idea variously known as iterative, evolutionary, or spiral development. One begins with one’s best estimate of the innovation, builds a first version of it, and then tries it out with customers or users. Knowledge gained from these tests is then fed back into a fast-cycle iteration of the next version.¹

Companies would also be wise not to try to implement an innovation all at once. Breaking a large-scale implementation into a series of limited releases creates momentum, dispels skepticism and anxiety, and delivers a powerful rejoinder to carping critics.

When MetLife, for instance, was implementing a new process for installing coverage of a new customer, it did so in two releases. The first involved the creation of a new role—a case-implementation leader, who was responsible for collecting all the information to establish coverage. In that release, a new project-management tool was also introduced to control the process. That took only a few months and delivered substantial reductions in cycle time, as well as a 15% productivity gain. But it continued to rely on old information systems to support the process. In the second release, a new information system was installed that facilitated data collection and the production of documentation and also offered enhanced reporting capabilities. This second release delivered another 20% productivity improvement, as well as a 20-point increase in customer satisfaction.

Shell Lubricants followed a similar strategy when it transformed its order fulfillment process. The first release brought all the departments involved in the process under a single manager. This easy-to-implement change quickly delivered a degree of performance improvement. The improvements continued when the next release brought people from the various departments together into cross-functional teams. In the final release, each team member was trained to handle an entire order. This was the goal from the outset; Shell simply reached it in manageable steps.

**Is It Sustainable?**

Even with all the benefits operational innovation can deliver, some executives may wonder if it is truly worth the effort. Why bother to be the first on the block to develop and deploy a new way of working? Why not let a competitor break that ground and then capitalize on its experiences, doing an even better job? Indeed, where is the real strategic advantage in operational innovation at all? Once one company introduces a new way of doing things, all competitors can follow, and before long all are back on the same level playing field.

In theory, that is a powerful argument, but in the real world, operational innovations have legs. Even today, not all auto insurers offer immediate claims response. And despite Dell’s success, build-to-order has not swept the PC industry. At one major PC maker, an effort to do so was suppressed by both the head of manufacturing (who was concerned that it would lead to outsourcing) and the head of marketing (who was afraid of alienating the retail channel), and top leadership was too preoccupied with other matters to intervene. Toyota has confidently opened its factories to visitors from other automakers and yet continues to expand its productivity lead.

There are many reasons why theoretically imitable operational innovations have staying power. Some companies, even when confronted by a competitor’s innovations, will not rush to emulate them. Denial of competitor superiority and a disinclination to truck with operations are powerful forces of nature, and so is organizational inertia. Some competitors who attempt to imitate the innovation won’t understand it, and others won’t be able to implement it. Even those who do follow will be at a disadvantage until they catch up.

Operational innovation is a step change: It moves a company to an entirely new level.

**Operational innovation is a step change: It moves a company to an entirely new level.**
ness that have already been rethought can benefit from subsequent rethinking as new technologies and new customer needs make the old innovations passé. Companies that bake operational innovation into their culture make competitors continually scramble to catch up with the changing rules. What’s more, they can even develop a reputation with customers for relentlessly improving performance, a brand promise of extraordinary value.

Progressive has created such a culture; leaving well enough alone is a principle with which the company is systemically uncomfortable. It recently revised its very successful Immediate Response claims process so that the representative no longer attempts to assign an adjuster as soon as the claimant calls. Rather, the representative guarantees to call the claimant back within two hours with specifics about when an adjuster will see the vehicle. This two-hour window gives the company the opportunity to assign the right kind of adjuster given the specifics of the case, so that a junior adjuster is not confronted with a complex accident beyond his level of expertise. Progressive is also deploying in select markets what it calls a concierge approach to claims handling. Here, a claimant simply brings the car to a Progressive claims facility at a convenient time and leaves it there, picking up a loaner at the same time. Progressive then takes responsibility for getting the car fixed. Under this system, the claimant is spared the hassle of dealing with body shops, the Progressive adjuster works in a climate-controlled environment that allows more careful inspection, and the body shop doesn’t have to get between Progressive and its customers. By the time its competitors imitate this latest innovation, Progressive will no doubt have moved onto something else.

Operational innovation may appear unglamorous or unfamiliar to many executives, but it is the only lasting basis for superior performance. In an economy that has overdosed on hype and in which customers rule as they never have before, operational innovation offers a meaningful and sustainable way to get ahead—and stay ahead—of the pack.

1. Marco Iansiti and Alan MacCormack describe how this approach was successfully applied in the development of Internet browsers in their article “Developing Products on Internet Time” (HBR September–October 1997).
Deep Change
How Operational Innovation Can Transform Your Company

Further Reading

ARTICLES

The Power of Virtual Integration: An Interview with Dell Computer’s Michael Dell
by Joan Magretta
Harvard Business Review
March–April 1998
Product no. Product no. 7907

Hammer’s article asserts that companies can use breakthrough innovations in operations to destroy competitors and shake up whole industries, and Dell Computer is living proof. Back in 1984, Michael Dell decided to sell PCs directly to customers and build products to order. In one swoop, he eliminated the reseller’s markup and the costs and risks associated with carrying large inventories of finished goods. The result—the direct business model—propelled Dell ahead of such powerhouses as IBM, Compaq, and HP. This interview offers a deeper look inside Dell’s highly publicized success and offers a model of how traditional relationships in a value chain can be reconceived. The individual pieces of Dell Computer’s strategy—customer focus, supplier partnerships, mass customization, just-in-time manufacturing—may all be familiar. But Michael Dell’s insight into how to combine them is highly innovative.

The Lean Service Machine
by Cynthia Karen Swank
Harvard Business Review
October 2003
Product no. R0310J

To create an operational innovation in your own company, asserts Hammer, find role models outside your industry and apply their best practices to your operations. That’s precisely what Jefferson Pilot Financial did when it was looking for new ways to grow. The life insurance and annuities firm wanted to reduce turnaround time on policy applications, simplify the submission process, and reduce errors, so JFP managers looked to the manufacturing sector for inspiration—particularly, to the “lean production” practices U.S. manufacturers adopted in response to Japanese competitors. The adoption process JFP managers followed echoes much of Hammer’s advice—first setting up a “model cell” where kinks can be ironed out, working to convince skeptics that the innovation really can work, and setting extremely high performance targets that could be reached only through radical innovations.

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How Process Enterprises *Really* Work

by Michael Hammer and Steven Stanton

Included with this full-text *Harvard Business Review* article:

15 **Article Summary**
   - The Idea in Brief—*the core idea*
   - The Idea in Practice—*putting the idea to work*

16 **How Process Enterprises Really Work**

25 **Further Reading**
   - A list of related materials, with annotations to guide further exploration of the article’s ideas and applications

Product 7893
How Process Enterprises Really Work

The Idea in Brief

Texas Instruments shrank product launch time by 50%. IBM reduced time-to-market by 75%—saving more than $9 billion.

How? These companies transformed themselves into process enterprises. First, they streamlined their core processes—combining related activities from different departments and eliminating ones that didn't add value. But they didn't stop there. They took the critical next step: building management structures to support these integrated processes.

What's the big deal about creating a process enterprise? It flies in the face of most companies, which still operate as fiefdoms. Product or functional teams jealously guard power and turf—and process integration threatens their control. A tug of war ensues: New, horizontal processes pull people in one direction. Old, vertical management structures pull them in another. Confusion and conflict reign.

Process enterprises replace these turf and hierarchy battles with new approaches to leadership, performance measurement, compensation, and training—all focused on customers and teamwork, and all harmonizing with integrated, streamlined processes.

Here's how to turn your company into a process enterprise—enhancing flexibility, efficiency, and customer focus.

The Idea in Practice

ASSIGN PROCESS OWNERS

Process owners are the most visible difference between a process enterprise and a traditional organization. Assign a senior manager end-to-end responsibility for each process, including authority over work and budgets. They design the process, measure its performance, and train the frontline workers who perform it—though employees still report to unit heads.

Example:

Facing deregulation, electric-utility firm Duke Power realized no one had direct accountability for how the company delivered value to customers. It identified five customer processes—such as “acquire and maintain customers” and “deliver products and services”—and assigned each an owner with vast authority to redesign processes and set performance targets and budgets. Duke reshaped every customer-service activity. After reorganizing warehouses, for example, installation crews got on the road in 10 minutes—versus 70 previously. Duke’s revamped scheduling process also helped it meet 98% of its commitments to building-contractor customers—versus 30%–50% previously.

RESTRUCTURE YOUR MANAGEMENT

Traditional vertical management styles have no place in process enterprises, where lines of authority blur. For example, process owners manage processes—but unit owners manage the people who perform them. With this split in authority, both kinds of managers must work differently with each other and with the front line. They must:

• focus on customers and teamwork
• negotiate and collaborate
• exert influence rather than authority
• coach and develop (rather than control) front-line employees.

Example:

Duke’s “deliver products and services” process owner designs and delivers training programs to workers, sets performance targets, updates workers on customer needs, and listens to their concerns and ideas. His job? “To convince [them] there is no greater calling... than to do what the customer needs... and that the best tool they have is the process we have given them.”
What do IBM, Texas Instruments, Owens Corning, and Duke Power have in common? They’re all redesigning their organizations around their core processes—and reaping enormous benefits as a result.

How Process Enterprises Really Work

by Michael Hammer and Steven Stanton

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-
In many businesses, horizontal processes pull people in one direction; traditional vertical management systems pull them in another. Confusion and conflict ensue.

In many businesses, management systems concentrated power in the hands of country and product managers, and they were reluctant to sacrifice their own idiosyncratic ways of working. They simply refused to allocate the human and technical resources required to design and roll out standardized processes.

In response, IBM changed its management structure. Each process was assigned to a member of its senior-most executive body, the Corporate Executive Committee, making that member accountable for the process. All members were required to report back regularly to the Executive Committee on the status of the design, deployment, and implementation of the processes, including the benefits realized. Each process was then assigned an owner, called a “business process executive” (BPE), who was given responsibility for designing and deploying the process, as well as control over all expenditures for supporting technology.

Each of IBM’s far-flung business units is now expected to follow the processes designed by the BPEs. Should there be a disagreement between a unit manager and a process executive about the workings of a process, the two are expected to resolve it together. By shifting organizational power away from units and toward processes, IBM has achieved its goal of standardizing its processes around the world. The benefits have been dramatic: a 75% reduction in the average time to market for new products, a sharp upswing in on-time deliveries and customer satisfaction, and cost savings in excess of $9 billion.

In 1997, Owens Corning found that its efforts to install an enterprise resource planning system were floundering. An ERP system is, in essence, an integrative mechanism, connecting diverse departments through a shared database and compatible software modules. It is impossible to get the full benefits of an ERP system without having integrated processes. But at Owens Corning, as at IBM and Texas Instruments, there was no one in the organization to speak for processes. Departmental and regional managers, as a result, were either rejecting the new software or seeking to tailor it to the narrow needs of their particular units.

In response, the company’s top executives reorganized people into companywide, cross-functional process teams and appointed process owners to lead them. The new organization provided the impetus for a successful ERP implementation, which has in turn led to a 50% increase in inventory turns, a 20% reduction in administrative costs, and millions of dollars in logistics savings.

Creating a process enterprise is an enormously complex undertaking, as Texas Instruments, IBM, and Owens Corning all found out. Traditional organizational units are naturally hostile to integrated processes, seeing them as threats to their power. So organizational and management structures have to be changed in fundamental ways. That doesn’t mean, though, that existing vertical units such as functional, regional, or product groups are simply disbanded—in even the most process-focused business, vertical units continue to play essential roles. Rather, it means that horizontal and vertical management structures have to coexist, not just in peace but in partnership. Not only does a company have to redistribute management responsibility, it has to change its basic management systems, and even its culture, to support a new balance of power.

The Role of the Process Owner

The most visible difference between a process enterprise and a traditional organization is the existence of process owners. Senior managers with end-to-end responsibility for individual processes, process owners are the living embodiment of a company’s commitment to its processes. To succeed, a process owner must have real responsibility for and authority over designing the process, measuring its performance, and training the frontline workers who perform it. A process owner cannot serve just as an interim project manager, active only while a new process design is being developed and put in place. Process ownership has to be a permanent role, for two reasons. First, process designs need to evolve as business conditions change, and process owners need to guide that evolution. Second, in the absence of strong process owners, the old organizational structures will soon reassert themselves.

The advent of process owners is a dramatic change for most organizations because it separates the control over work from the management of the people who perform the work. Traditionally, a geographical or functional manager oversees both the work and the people who do it. In a process enterprise, the process owner has responsibility for the design of
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 for 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-
Process owners can’t simply order process workers to do their bidding. The role requires three critical skills: influence, influence, and influence.

How Process Enterprises Really Work

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 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.

if indirect, role in managing frontline workers. They act not as coaches but as, to use Manning’s word, “evangelists,” promoting the process designs and representing the interests of customers. As Manning puts it, “My job as a process owner is to convince the people who operate within my process that there is no greater calling for them than to do what the customer needs them to do and that the best tool they have is the process we have given them.” Manning performs this role by designing and delivering training programs to process workers; by setting performance targets; and by regularly talking with them, keeping them informed of changing customer needs and listening to their concerns and ideas.

Traditional styles of management, to sum up, have no place in a process enterprise. Managers can't command and control; they have to negotiate and collaborate. They can't wield authority; they have to exert influence. Any company hoping to turn itself into a process enterprise needs to understand the changes in managerial style that will be required and their implications for staffing and training. Few managers will be able to make the transition easily, and some may not be able to make it at all.

The Question of Process Standardization

Companies made up of many different business units will face an important strategic question as they make the shift to a process enterprise: Should all units do things the same way, or should they be allowed to tailor their processes to their own needs? In a process enterprise, the key structural issue is no longer centralization versus decentralization—it’s process standardization versus process diversity. There’s no one right answer. IBM, Duke Power, and Progressive Insurance, for example, have opted for standardization. They designate a single owner for each process, and that person develops and installs the same process design throughout the company. American Standard, in contrast, has different process owners and process designs in each of its major business units.

Process standardization offers many benefits. First, it lowers overhead costs, since the process requires only one owner with one staff, only one set of documentation and training materials, and only one information system. 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 reassigned 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 process 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.
How Process Enterprises Really Work

Further Reading

**ARTICLES**

**Getting It Done: New Roles for Senior Executives**
by Thomas M. Hout and John C. Carter
*Harvard Business Review*
November–December 1995
Product no. 3715

Like Hammer and Stanton, Hout and Carter lament the “fiefdom mentality”—the turf and hierarchy battles—that characterize all too many companies. As these authors point out, “baronial management” is a recipe for disaster in today’s organizations. Process-focused companies especially need more hands-on management, and more hands, than ever—because no longer can the top two or three people do all it takes to achieve corporate success. Hout and Carter describe striking examples of companies that emphasize executives’ mutual support of the company as a whole, and show how CEOs can encourage such collaboration.

**Changing the Role of Top Management: Beyond Structure to Processes**
by Sumantra Ghoshal and Christopher A. Bartlett
*Harvard Business Review*
January–February 1995
Product no. 5424

In building your process enterprise, you need to identify the core processes that drive your firm’s success. These authors take a closer look at three horizontal processes that are essential for fostering initiative, collaboration, and learning: 1) frontline entrepreneurship—encouraging employees to run their operations as if they owned them, 2) competence building—equipping frontline people with the talents they need to pursue local opportunities, and 3) renewal of ideas and strategies—challenging and even overturning the assumptions behind current strategies. The result of honing these three processes? A nimble organization that innovates quickly and embraces change.

**Introducing T-Shaped Managers: Knowledge Management’s Next Generation**
by Morten T. Hansen and Bolko von Oetinger
*Harvard Business Review*
March 2001
Product no. 6463

T-shaped managers—leaders who share ideas and expertise across the company (the horizontal part of the “T”) while also focusing on their own unit performance (the vertical part of the “T”)—exemplify what Hammer and Stanton mean by creating new management structures to support integrated processes. In this model, it’s the cross-unit collaboration—as opposed to traditional vertical management styles—that most characterizes true process enterprises. Hansen and von Oetinger outline the activities by which managers create “horizontal value”—including transferring best practices, gathering peer advice, growing revenue through shared expertise, developing new opportunities through cross-pollination of ideas, and making bold strategic moves through well-coordinated implementation of projects.
The Superefficient Company

by Michael Hammer

Included with this full-text Harvard Business Review article:

27 Article Summary
The Idea in Brief—*the core idea*
The Idea in Practice—*putting the idea to work*

28 The Superefficient Company

38 Further Reading
A list of related materials, with annotations to guide further exploration of the article’s ideas and applications

Product 7699
You’ve won the battle to become “lean and mean”—streamlining your company’s internal processes and honing cross-unit collaboration to a fine point.

But don’t rest on your laurels yet—the productivity war is escalating. Now you must become superefficient: streamlining the processes you share with other companies.

Consider your procurement process—a mirror image of your supplier’s order-fulfillment process. Both processes share many identical tasks. But each is performed in isolation, with scant coordination. Result? Costly duplication, errors, and waste.

Take chemical company Geon. During the 1990s, Geon slashed costs by millions of dollars, boosted productivity, and eradicated customer complaints by integrating internal core processes. But the company lost those gains—and more—after its joint venture with a materials supplier. The culprit? Lack of intercompany coordination of inventories and demand. Geon’s manufacturing was delayed, order-fulfillment time tripled, and inventory ballooned 15%.

How to avoid Geon’s fate—and one-up your toughest competitors? Tear down the walls between your company and its partners.

**SIMPLIFIED SUPPLY CHAINS**

Superefficiency aspirants usually focus first on supply-chain problems. Fixing these delivers big, immediate payoffs. To make your supply chain superefficient, view business processes as chains of activities performed by a series of different—but connected—companies.

Example: At IBM, a sales rep used to handle each incoming order—costing the company $233 every time. By integrating its fulfillment process with customers’ procurement processes, IBM eliminated the sales-rep role. Now customers enter their own orders and check order status. The payoff? Convenience, fewer mistakes, time and money savings for IBM and its customers, and increased customer loyalty.

**RADICAL PROCESS COLLABORATION**

The supply chain isn’t the only area offering tantalizing opportunities for superefficiency. A new kind of process collaboration is revolutionizing business. Consider noncompetitive suppliers who use similar resources to serve the same customers. By integrating distribution processes, they slash costs.

Example: General Mills yogurt and Land O’Lakes butter don’t compete—but they share identical warehousing and transportation needs. Now, both products ride in the same trucks to the same supermarkets. Results: lower distribution costs and higher customer satisfaction for both companies.

**STEPS TO SUPEREFFICIENCY**

To streamline your intercompany processes, follow steps necessary to introduce any new process—i.e., scoping (identifying a target process and partner), organizing, process redesigning, and implementing. But keep these unique cross-company guidelines in mind:

**Scoping:** Select a process that’s already operating at peak internal efficiency. Choose a partner experienced in process redesign, collaboration, and quick decision-making.

**Redesigning:** With strong steering-committee leadership from both companies, reconfigure the targeted process according to these principles:

- The customer comes first.
- The entire process is designed as one unit.
- No activity is performed more than once.
- Work is done by whoever is best positioned to do it.
- The entire process operates from one database.

**Implementing:** “Think big, start small, move fast.” Quickly develop the process vision and deliver concrete results quickly. Then relentlessly communicate progress.
You’ve cut the waste out of your own operations. Now, you face an even tougher challenge: streamlining the processes you share with other companies.

The Superefficient Company

by Michael Hammer

Having fought your way through the productivity wars of the past ten years, you’re probably proud of the leanness of your operations. And rightly so. You’ve revamped your processes, reducing overhead and cutting out redundant activities. You’ve enhanced the quality of your products and services, ridding your organization of mistakes and miscommunication. And you’ve broken down the walls between your units, getting people to work together and share information. In short, you’ve created a truly efficient company.

Guess what? You’ve only just begun.

While it’s true that companies have done a great job streamlining their internal processes, it’s equally true that their shared processes—those that involve interactions with other companies—are largely a mess. Think about your procurement process. It’s the mirror image of your supplier’s order-fulfillment process, with many of the same tasks and information requirements. When your purchasing agent fills out a requisition form, for instance, she is performing essentially the same work that the supplier’s order-entry clerk performs when he takes the order. Yet there’s probably little or no coordination between the two processes. Even if you and your supplier exchange transaction data electronically, the actual work is still performed in isolation, separated by a very deep intercompany divide.

Because cross-company processes are not coordinated, a vast number of activities end up being duplicated. The same information is entered repeatedly into different systems, the same forms are filled out and passed around multiple times, the same checks and certifications are done over and over. When activities and data make the jump between companies, inconsistencies, errors, and misunderstandings routinely arise, leading to even more wasted work. And scores of employees typically have to be assigned to manage the cumbersome interactions between companies. Though all these inefficiencies may be hidden from your accounting systems, which track only what happens within your own walls, the costs are real, and they are large. Today, efficiency ends
The Superefficient Company

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at the edges of a company.

Streamlining cross-company processes is the next great frontier for reducing costs, enhancing quality, and speeding operations. It’s where this decade’s productivity wars will be fought. The victors will be those companies that are able to take a new approach to business, working closely with partners to design and manage processes that extend across traditional corporate boundaries. They will be the ones that make the leap from efficiency to superefficiency.

Tearing Down Walls
To get a clearer view of the prodigious costs of uncoordinated intercompany processes—and the great rewards of integrating them—look at the recent experiences of Geon, a chemical company based in Ohio. Geon spun off from BFGoodrich in 1993. Through organic growth and a series of acquisitions and joint ventures, it established itself as the world’s largest producer of polyvinyl compound (PVC), garnering revenues of $1.3 billion in 1999. (Last year, Geon merged with another chemical company, M.A. Hanna, to form PolyOne.)

Through most of the 1990s, Geon was a vertically integrated business. It bought chlorine and ethylene and combined them to create the basic raw material for PVC, vinyl chloride monomer (VCM). It then transformed VCM into resins and, through a series of additional steps, into various compounds used in products ranging from computer housings to home appliances. Like many industrial companies, Geon focused its energies in the mid-1990s on breaking down the walls between its units in order to reduce costs and create greater value for customers. The company followed a program that is by now familiar: integrating and simplifying core business processes and installing an ERP system to support them. By allowing information and transactions to flow more easily among different parts of the company, Geon profited handsomely. The percentage of orders shipped on time soared, customer complaints almost vanished, the need to pay premium freight rates to make up for scheduling foul-ups evaporated, inventory levels fell sharply, and overall productivity got a strong boost. Geon’s costs dropped by tens of millions of dollars, and its working capital fell from more than 16% of sales to less than 14%.

Then, in 1999, the company initiated a major strategic shift: Recognizing that it did not have the sales volumes necessary to produce VCM and resins at a competitive cost, the company decided to focus entirely on the compounding side of the business. Producing compounds was a higher-value-adding activity, and it was less dependent on scale and more reliant on clever engineering to meet specific customer needs. This new focus would give Geon the opportunity to gain a true competitive advantage and to widen its margins. In support of the new strategy, Geon divested its VCM and resins operations to a joint venture with Occidental Chemical called OxyVinyls, which became its primary supplier of materials.

While Geon’s actions were strategically sound, they were operationally disastrous. In effect, Geon erected a high (intercompany) wall where it had just demolished a low (intracompany) one. VCM and resin production had only recently been integrated with compounding, and now they were again torn asunder, this time becoming parts of separate companies. The results were all too predictable: Work was no longer coordinated, information was no longer shared, and overhead and duplication were reintroduced. Expeditors, schedulers, and a host of clerical personnel had to be hired to manage the interface between Geon and OxyVinyls. Data had to be entered twice, resulting in an 8% error rate on orders that Geon placed with OxyVinyls—wrong purchase-order numbers, product numbers, prices, and so on. The time needed to process orders also jumped as communications became more formal and interfaces more complex.

On the production side, as Geon and OxyVinyls became less aware of each other’s inventories, shipments, and levels of demand, their manufacturing processes became more irregular, requiring many stops and starts, delays, and unexpected changeovers. Geon’s horizon for production planning was dramatically shortened, from about seven weeks to about three. Its inventories increased 15%, its working capital went up 12%, and its order-fulfillment cycle time tripled. Not only had Geon lost the earlier benefits it had gained by pains-takingly integrating its business processes, but in many ways the situation became even worse than it had been before Geon’s internal wall-bashing.

Geon’s problems may appear particularly dire, but they were actually no worse than
Companies are starting to see business processes—and manage them—as they truly are: chains of activities that are performed by different organizations.

those faced by most companies. There was, however, one crucial difference: Geon saw them. Its rapidly decaying performance underscored to management the huge penalties of disjointed intercompany processes. Rather than ignoring the inefficiency or dismissing it as the inevitable consequence of working with other companies, Geon took action. It worked closely with OxyVinyls to connect both companies’ processes and the computer systems that supported them.

The two companies tightly integrated their forecasting process; now, as soon as Geon uses information from its customers to predict demand for compounds, that forecast is transmitted, over the Internet, to OxyVinyls, which incorporates it into its own forecast for resins and monomers. Ordering and fulfillment processes are also tightly knit. Within 24 hours of receiving an order from one of its customers, Geon translates the order into the materials it will need from OxyVinyls and automatically dispatches an order directly into OxyVinyls’ fulfillment process and system. In turn, order acknowledgments and confirmations, advance shipment notifications, and invoices automatically go from OxyVinyls back to Geon.

The jobs and behavior of employees involved in the processes have changed significantly as a result. Production planners in one company, for example, no longer have to waste time trying to find out what’s going on in another company. Instead, they can concentrate on solving problems in ways that benefit both companies. When there are tight markets for raw materials, for instance, planners from Geon and OxyVinyls work hand-in-hand to re-schedule production runs and shipments to ensure that plant capacity is used as efficiently as possible. Geon’s people also better appreciate that small orders increase OxyVinyls’ shipping costs, and they now look for opportunities to consolidate purchases. They know that when OxyVinyls’ costs go down, so do the prices of the products it sells to Geon.

Performance measures have also changed. Geon’s purchasing agents used to be evaluated primarily on the prices they negotiated for materials. Even though the availability of materials is critical to manufacturing productivity, that factor was not taken into account in assessing the agents because it was assumed they had little knowledge of or control over the supplier’s shipments. Now that the agents have accurate information about OxyVinyls’ production and shipping schedules, they are held accountable for the availability as well as the price of the materials they buy.

Geon has recently gone a step further, integrating its processes with those of its customers. It has put sensors into some of its major buyers’ warehouses so that it always knows how much of its compounds a customer has in stock. When inventories decline to an agreed-upon level, Geon automatically sends replenishments, cutting out many traditional stock-checking and ordering activities.

Through Geon’s efforts, the processes of three different companies—the customer’s procurement processes, Geon’s order-fulfillment and procurement processes, and OxyVinyls’ order-fulfillment process—have been integrated. They are now all managed as a single process, without regard to corporate boundaries and with much less friction, overhead, and error. The payoffs have been dramatic. Geon’s 8% error rate in placing orders has gone to 0%, its order-fulfillment cycle time has fallen back to its earlier level, and its inventories have declined 15%. Its labor costs have also fallen, because non-value-adding work has been eliminated. More important, the company has been able to reassign many of its people to jobs in which they serve customers rather than just fix mistakes. That’s enabled Geon to better fulfill its new strategy of focusing on high-value-added activities.

Relocating Work

It may be tempting to look at Geon’s story simply as an illustration of the power of using the Internet to connect disparate information systems. But while that’s an accurate technological description, it misses the bigger point: Separate processes in separate companies have been connected and combined and now work as one. New technologies may be the glue, but the more important innovation is the change in the way people think and work. Rather than seeing business processes as ending at the edges of their companies, Geon and its partners now see them—and manage them—as they truly are: chains of activities that are performed by different organizations.

Although the concept of supply chain integration has been around for some time now, companies have had trouble making it a reality. In most cases, that’s because they’ve viewed...
it as merely a technological challenge rather than as what it really is: a process and management challenge. Once you adopt this broader view, you can quickly cut a lot of costs and waste from your existing operations. But you can do much more as well—you can discover new and better ways to work. You can begin to shift activities across corporate boundaries. If your company, for instance, happens to be in a better position today to do some work that my company has traditionally done, then you should do it—even if that work is “officially” my responsibility. The increased costs you incur doing the work will be more than offset by the benefits of improving the process as a whole, benefits that will accrue to both of us.

IBM is now using this approach to manage customers’ orders. In 1998, IBM estimated that it spent $233 to handle each order it received, much of which went to “order management”—getting the order in, making sure that it was at the appropriate price, answering customers’ questions about payment status, and so on. The overhead could be traced in large part to the wall that separated IBM from its customers. The company had long required that all customer interactions be mediated by an IBM employee—usually, a sales rep. By removing this requirement, IBM has been able to integrate its fulfillment process with its customers’ procurement processes and redesign the unified process to work much more efficiently and flexibly. Now customers can do for themselves much of the work that IBM had previously done for them, with greater convenience and lower costs. With the new process and systems, customers can enter their own orders into IBM’s computer system and can check the status of their orders. IBM wins because its costs are lower; the customers win because they get the work done correctly at a time of their choosing, and they are spared the bureaucratic burden of interacting with IBM’s gatekeepers. There are other benefits as well. One important set of customers—value-adding resellers—has been able to reduce its inventories of IBM equipment by more than 30%. Since the resellers can get orders into IBM’s process more quickly and can find out when the orders will actually be filled, they get by with less stock on hand. That makes them happier customers, which IBM knows makes them more loyal customers. It also reduces channel inventory, tempering the risk that IBM will be harmed by sudden shifts in demand.

At the same time, IBM is now doing some work that customers used to have to do for themselves. The large corporations that buy from IBM typically standardize the computers they use, requiring all employees to order the same configuration. But in practice, many people get the specifications wrong or make other mistakes in ordering; it was not uncommon for IBM to see an error rate of more than 50% in orders from corporate customers. In effect, the customer’s ordering process was defective (in not screening out inappropriate orders), and IBM had to compensate for the failure. Now, IBM has taken over the work of vetting customer orders. The customer provides IBM with a complete description of the approved configuration. IBM then limits the customer’s employees to ordering only that configuration. Both IBM and the customer benefit because they have to spend less time cleaning up the mess that results from inaccurate orders.

Simplifying Supply Chains

Another high-tech company, Hewlett-Packard, has taken an even more aggressive approach to restructuring work in cross-company processes—in a way that is reshaping the economics of its supply chain for computer monitors. A typical purchaser of an HP monitor probably has no idea how many companies are involved in producing it. Like most computer makers, HP has outsourced much of its manufacturing to contract producers, such as Solelectron and Celestica. The contract manufacturer buys the case for the monitor from an injection molder, which acquires the material used to make the case from a plastics compounder (Geon is an example), which in turn buys the material for the compound from a resin maker. This supply chain is fairly easy to describe, but, until recently, it was almost impossible to manage.

For one thing, the suppliers at the opposite end of the chain from HP had no idea how many monitors HP would actually need; they often didn’t even know that HP was the ultimate destination for their resin or compound. Consequently, each had to carry a lot of inventory in case an HP order came barreling down the chain. In many cases, the inventory that they did carry ended up not being what HP needed at the moment. When that happened, HP was sometimes unable to deliver an order
when the customer needed it, forcing the customer to go elsewhere. Disputes between upstream suppliers could also lead to unexpected delivery delays that might disrupt HP’s ability to fulfill orders. Such situations meant lost revenue for everyone in the supply chain.

Another complexity was the volatility in order specifications. In theory, once HP placed an order, its suppliers should have been ready to roll. But the reality of the computer business is that nothing stays fixed for long. On average, an order for a batch of computer monitors changes four times before it is completely filled, usually in response to shifts in marketplace demand. Quantity, delivery date, and color are just a few of the variables that are routinely altered.

The disparity in scale between the participants in this supply chain complicated matters further. HP and its resin supplier are giant companies, and the contract manufacturers are fairly substantial as well. But most injection molders are relatively small outfits, as are most compounders. So every HP order for monitor cases was usually split among many compounders, each of which bought resin in relatively small volumes—and, consequently, at relatively high prices—from the resin maker. HP’s potential purchasing clout, in other words, dissipated at each step in the chain that separated it from its ultimate supplier. Because it was shielded from the suppliers of compounds and resins, HP also lacked the ability to track their quality and delivery performance and their prices and terms, and it rarely heard their ideas for enhancing products and processes.

An army of people, dispersed among the different companies and using a host of unrelated information systems, was required to hold this cumbersome set of processes together—at great cost. Recognizing the problem, HP in 1999 resolved to integrate the entire supply chain and coordinate the unified process. The company assumed responsibility for ensuring that all parties work together, share information, and operate in a way that guarantees the lowest costs and the highest levels of availability throughout the chain.

The hub of the newly integrated process is a computer system that HP set up to share information among all the participants. HP posts its demand forecasts and revisions for its partners to use in their own forecasting. The partners post their plans and schedules and use the system to communicate with their own suppliers and customers, exchanging electronic orders, acknowledgments, and invoices. HP’s procurement staff manages the entire process, monitoring the performance of the upstream suppliers, helping to resolve disputes relating to payments, and keeping supply and demand in balance. The company’s purchasing agents, once narrowly focused on terms and conditions, have seen their jobs broaden considerably.

The integrated process has dramatically enhanced the performance of the supply chain. Today, any kind of change to an HP order ripples through the chain instantaneously, allowing everyone to react quickly. And if any problem crops up that threatens HP’s ability to meet its forecasts, HP learns of it early enough to make other plans. Because it coordinates the entire process, HP can also order all its required resin directly from the resin supplier. It provides the resin maker with an aggregate order, and it receives a single bill at a uniform, considerably lower contract price. The resin maker benefits from this new relationship as well; it gets the simplicity and security of dealing with one large customer rather than a host of small ones.

Streamlining the supply process has helped every participant, but HP has perhaps profited most. In the first implementation of this process, the price HP pays for its resins has gone down as much as 5%, the number of people it requires to manage the supply chain has been cut in half, and the time it takes to fill an order for a computer monitor has dropped 25%. Best of all, HP estimates that it is increasing sales in the areas in which it has implemented this newly integrated process by 2%. These are sales that the company had previously lost because it could not deliver the right product at the right time. HP no longer has to commit the mortal sin of turning customers away.

**From Coordination to Collaboration**

The examples I’ve described so far center on the management of supply chains. That shouldn’t be a surprise. Supply chain problems are highly disruptive—and costly—to companies, and fixing them delivers a big, immediate payoff. So companies have tended to focus their initial efforts in streamlining cross-company processes on the supply chain. But tantalizing opportuni-
ties in other areas are now starting to appear. The next major wave is likely to be the integration of product-development processes. A company, its suppliers, and even its customers will begin to share information and activities to speed the design of a product and raise the odds of its success in the market. Suppliers, for example, will be able to begin developing components before an overall product design is complete, and they will also be able to provide early feedback as to whether components can be produced within specified cost and time constraints. Customers, for their part, will be able to review the product as it evolves and provide input on how it meets their needs. In a very real sense, this kind of collaborative product development will be the multicompany analogue of concurrent engineering, which has transformed internal product development over the past 15 years.

On a more profound level, we’re beginning to see examples of an entirely new kind of process collaboration, which promises to change the way we think and even talk about business. The traditional vocabulary of corporate relationships is meager: If you sell me something, I am your customer, and you are my supplier; if another company tries to sell me the same thing, it is your competitor. And that’s about it, because those were the only relationships that made any difference to us. But what if you and I are both buying the same product or service from the same supplier? In the past, it was unlikely that either of us would discover that we had such a relationship, and, even if we did, the information would have been of little, if any, value. Consequently, we had no term to describe it. Similarly, what if you and I sell different products, but to the same customer? We are not competitors, but what are we? In the past, we didn’t care. Now, we should.

Consider the recent experience of General Mills, a giant in the business of consumer packaged goods, with brands ranging from Cheerios to Yoplait. For years, margins have been falling for consumer packaged goods as distribution channels have consolidated and consumers have become more selective. Through the 1990s, General Mills led the industry in squeezing costs out of its supply chain. Through increased purchasing effectiveness, manufacturing productivity, and distribution efficiencies, General Mills’ cost per case of product declined by a remarkable 10% during the decade. But as a new decade dawned, the company’s leaders realized they would have to move beyond the confines of their linear supply chain in order to find new cost-savings opportunities. Among their first ideas was a radical new approach to the distribution of their refrigerated products, like yogurt.

As businesses, refrigerated goods and dry goods have very different characteristics. The top seven dry-goods manufacturers together account for nearly 40% of total supermarket sales in that category. Each of the manufacturers has enough sales to efficiently operate its own distribution network, including warehouses and trucks. In the refrigerated category, however, the top seven players represent less than 15% of total supermarket sales, and nearly all lack the scale needed for a highly efficient, dedicated distribution network. Nonetheless, each company maintains one, and, unsurprisingly, each suffers from suboptimal productivity as a result.

When a refrigerated truck laden with Yoplait, for example, leaves a General Mills warehouse headed for local supermarkets, it is often carrying less than a full load. Even more often, it is carrying orders for several supermarkets, requiring it to make many stops. If the truck is delayed in traffic or encounters a snafu at one of its early stops, it may not make it to the final supermarket on its route that day. If that supermarket has just run an ad promoting a special on Yoplait, it will have to deal with angry consumers, and General Mills will face a frustrated supermarket in addition to lost sales.

General Mills realized that it could address the problem by integrating its distribution process with another company’s. It found the perfect partner in Land O’Lakes, a large producer of butter and margarine. Land O’Lakes products do not compete with those of General Mills, but they have the same warehousing and transport requirements and the same customers. The two companies agreed to combine their distribution networks, giving them the scale necessary for high efficiency. Today, General Mills yogurt and Land O’Lakes butter ride in the same trucks on their way to the same supermarkets. When Land O’Lakes receives an order, it ships the goods to a General Mills facility, where they are immediately loaded onto a truck containing General Mills yogurt headed for the same customer. Or, if the cus-
The Superefficient Company

With the combined process, General Mills’ trucks go out much fuller than before, and since they're delivering more products to each supermarket, they make fewer stops and suffer fewer delays. The arrangement has been so successful, in terms of both lower costs and higher customer satisfaction, that the two manufacturers are now planning to integrate their order-taking and billing processes as well. They are also working together to create incentives for customers to order larger combined amounts from the two companies, which will result in even greater transport savings.

General Mills and Land O’Lakes are non-competitive suppliers—what I’ve come to call cosuppliers—to the same customers, and it is to their mutual advantage to find ways to work together. The potential for such relationships has always existed, but in the past it was difficult, if not impossible, to make them work. There was simply no efficient means of sharing information quickly and accurately enough. Manually coordinating two companies’ deliveries through a shared distribution network would quickly have turned into a logistical nightmare. But with the Internet and associated communications technologies, these kinds of business relationships suddenly become feasible, opening up new opportunities for creative companies.

Indeed, anywhere that different companies use similar resources, there are opportunities for reducing costs through sharing. For instance, a recent study by a group of manufacturers showed that they collectively owned about 30 million square feet of warehouse facilities in the greater Chicago area, but only 82% of the space was being used. By sharing warehouse space with one another, these companies envision eliminating the waste and sharing the benefits. The U.S. trucking fleet is plagued by similar inefficiencies. Because shippers plan their deliveries independently, they often have to pay for drivers to move empty trucks from the end point of one trip to the start of the next one. At any given time, 20% of the nation’s trucks are traveling empty, raising costs for both shippers and truckers. Some companies, however, are now starting to merge their logistics processes. By planning shipments and contracting for trucks together,

Four Steps to Superefficiency

1. Scoping
   - Identify the appropriate business process to redesign
   - The process should offer substantial opportunities to enhance overall business performance, and it should already be operating at peak internal efficiency.

2. Organizing
   - Select a partner
   - The partner should have a strong interest in the initiative; be experienced with internal process redesign; make decisions quickly; and have a collaborative culture.
   - Establish an executive steering committee
   - The steering committee should convene early and should include leaders from both companies. The committee should define each company’s investments, roles, and share of benefits; establish procedures for resolving disputes; and establish performance measures and goals.
   - Convene a design team
   - The design team should have between six and 12 members committed full-time to the project. The team should include members from both companies and should include experts in existing processes, in process redesign, and in change management.
they're saving money for themselves and their carriers.

**Making It Happen**

Companies that have redesigned their internal processes know that success requires a rigorous, structured approach. The same is true for streamlining cross-company processes, but here the challenges are even greater. No matter how tough it is to get different departments to work together, getting different companies to collaborate is even harder. I have found that it’s best to structure the project into four major stages: scoping, organizing, redesigning, and implementing.

**Scoping.** First, you have to set your sights on the right targets. Start by identifying the intercompany process that offers the greatest opportunity for improving your overall business performance, whether it’s a supply chain, product development, distribution, or other process. Typically, you’ll want to select a process that you’ve already brought to peak internal efficiency; it makes little sense to merge processes that still harbor inefficiencies.

The choice of the partner you’ll work with may be the most important decision you’ll make. Obviously, the partner needs to be a company that is likely to have an interest in working with you to streamline the process, but that is not nearly enough. You need to evaluate the other company’s technical competence and cultural fit for doing intercompany process redesign. Does it have significant experience with transforming its internal processes? It should, since a cross-company process is a risky place to learn the basics. Can the company make decisions quickly? If not, the effort will never yield fruit. Does it have a collaborative style? A focus on the short term rather than the long term, a predilection for contracts rather than trust, a search for one-sided advantage rather than mutual benefit—any of these will doom the initiative.

**Organizing.** The operating and cultural consequences of intercompany process redesign are so far-reaching that strong executive leadership is needed from the outset. An executive steering committee, comprising leaders from both companies, should be convened very early. One of its first responsibilities should be to define the rules of engagement. What will each party invest in this effort? How will benefits be shared? How will conflicts and
disputes be resolved? Collaboration on processes is fairly unfamiliar territory for most organizations, and setting ground rules at the start will avoid a lot of misunderstanding later. The steering committee also needs to decide which performance measures (such as cycle times, transaction costs, or inventory levels) will be targeted for improvement and to establish specific, quantified goals.

While the steering committee sponsors the process redesign, it does not actually do it. That is the role of the design team. The design team should include people from both companies, and its core members should be experts in the existing process, people skilled in process redesign, and specialists in technology and change management. Too large a team is unwieldy, and too small a group lacks the critical mass to get anything done; typically, six to 12 people is the right size. As a rule, all members should be assigned full time to the project. Speed is of the essence here, and part-timers tend to be so distracted by other responsibilities that they move glacially, if at all.

**Redesigning.** During the redesign stage, the team members roll up their sleeves, take the existing process apart, and reassemble it to achieve the performance goals. Here are some principles that the team should follow in coming up with the new design:

- **The final customer comes first.** Both companies need to submerge their narrower goals in service to a higher one: meeting the needs of the customer whom they work together to serve. Participants must remember that a company they have always considered a customer may, in fact, be merely a collaborator in serving the ultimate customer.

- **The entire process should be designed as a unit.** That may sound obvious, but it’s an easy point to lose sight of. Make sure all members stay focused on the big picture; otherwise, they may begin to address the process in pieces rather than as a whole.

- **No activity should be performed more than once.** Eliminating duplicated activities is one of the best ways to make intercompany process redesign pay off quickly—and that’s crucial to building and maintaining momentum.

- **Work should be done by whoever is in the best position to do it.** IBM enforces its customers’ computer standards; HP buys resin for its suppliers’ suppliers’ suppliers. It defeats the purpose of a collaborative to attempt to be self-sufficient. Do what you do best, and let others do the same.

- **The entire process should operate with one database.** When everyone shares the same version of all the information, reconciliation tasks can be eliminated and assets can be deployed precisely and efficiently.

Working on an interdisciplinary process design team is an unfamiliar experience for almost everyone; when one’s teammates come from another company and not just another department, the unfamiliarity increases dramatically. Frequently, people from one company will lack even the most basic understanding of the operations and concerns of the other. Team members therefore need to develop an appreciation for the challenges facing the other company. They must also learn that they are not representing their company’s interests but those of the process as a whole.

**Implementing.** Once the process has been redesigned, it must be rolled out. Two principles are critical to success in this stage. The first is “think big, start small, move fast.” Trying to implement a radically new process in one step is almost always a recipe for disaster. Any intercompany working relationship will be tenuous until real results are achieved, and the longer it takes to reach that milestone, the greater the risk that the whole thing will unravel. Consequently, the entire effort must be conducted with an eye on the clock. The redesign team should develop its vision for the process being revamped in weeks, not months, and it should organize the implementation so as to deliver tangible results quickly.

The second principle is “communicate relentlessly.” Redesigning an intercompany process not only changes people’s jobs, it also changes how they think about and relate to other companies. Information sharing, openness, and trust need to replace information hoarding, suspicion, and downright hostility. Without constant reminders of the rationale for the redesign, the benefits that will accrue to each company, and the expectations for every employee, the needed cultural change simply will not occur.

... It's natural for a company to get nervous about tearing down the walls that enclose its organization. The act goes against many long-held notions of corporate identity and strategy. But most companies were nervous about...
breaking down the walls between their internal departments and business units, too. Some even delayed the effort—and they have spent the last decade playing catch-up with their competitors. Streamlining intercompany processes isn’t just an interesting idea; it’s the next frontier of efficiency. Right now, it’s the best way to develop a performance advantage over your competitors—or to prevent them from developing one over you.
You wouldn’t—and shouldn’t—think about becoming superefficient without first streamlining your internal processes: combining related activities from different departments and eliminating ones that don’t add value. Companies most successful at this internal coordination have built process enterprises. They took the next critical step of building the right management structures to support their internally integrated processes. This avoids the tug of war that results when new, horizontal processes pull people in one direction, and old, vertical management structures pull them in another. To avoid this conflict and confusion, process owners skilled at negotiation and collaboration replace turf and hierarchy battles with leadership, performance metrics, compensation, and training—all focused on customers’ needs and teamwork.

Wondering what superefficiency looks like at its most productive extreme? Consider Dell Computer’s legendary model of direct selling: sidestepping retailers by selling customers built-to-order computers directly. Dell has always placed its strategic emphases on customers, supplier partnerships, mass customization, and just-in-time marketing. But virtual integration is the invisible thread that stitched all these pieces together and enabled Dell to achieve extraordinary speed and efficiency. Virtual integration is a unique system of coordination among suppliers, manufacturers, and customers. For Dell, this system means treating customers and suppliers as if they were inside Dell. It lets the company capture vital customer information and regularly transmit it to suppliers. By achieving the tightness of internal coordination without excess personnel or costly inventory, Dell accomplished a remarkable feat: It became a $12 billion company in just 13 years.