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# How to make reengineering really work

**Companies often squander their energies on attractive-looking projects that fail to produce bottom-line results**

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*A study of reengineering projects in over 100 companies reveals how difficult these projects are to plan and implement and, more important, how often they fail to achieve real business-unit impact. The study identified two factors – breadth and depth – that are critical in translating short-term, narrow-focus process improvements into long-term profits. Successful projects at Banca di America e di Italia, Siemens Nixdorf Service, and AT&T demonstrate how companies can appropriately make their reengineering projects broader and deeper. Such efforts, however, if poorly managed, provoke organizational resistance. But such opposition can be overcome if committed managers approach reengineering as a painful but necessary disruption of the status quo.*

**I**N ALL TOO MANY COMPANIES, reengineering has been simultaneously a great success and a great failure. After months, even years, of careful redesign, these companies achieve dramatic improvements in individual processes only to watch overall results decline. By now, paradoxical outcomes of this kind have become almost commonplace. A computer company reengineers its finance department, reducing process costs by 34 percent, yet operating income stalls. An insurer cuts claims-process time by 44 percent, yet profits drop. Managers proclaim a 20 percent cost reduction, a 50 percent process-time reduction, a 25 percent quality improvement, yet in the same period, business-unit costs increase and profits decline.

In short, too many companies squander management attention and other resources on projects that look like winners but fail to produce bottom-line results for the business unit as a whole.

But why? The promise of reengineering is not empty: it can actually deliver revolutionary process improvements, and major reengineering efforts are being conducted around the world. Why then can't companies convey these results to the bottom line?

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### Three critical elements

Our research examined reengineering projects in more than 100 companies and included detailed analysis of 20 of these projects. It revealed how difficult redesigns actually are to plan and implement and, more important, how often they fail to achieve real business-unit impact. Our study identified two factors

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To translate short-term, narrow-focus improvements into long-term profits, the process to be redesigned must be broadly based on cost or customer value

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– *breadth* and *depth* – that are critical in translating short-term, narrow-focus process improvements into long-term profits. First, the process to be redesigned must be broadly based on cost or customer value in order to improve performance across the entire business unit. And the redesign must penetrate to a company's core, fundamentally

changing six crucial organizational elements. These *depth levers* include roles and responsibilities; measurements and incentives; organizational structure; information technology; shared values; and skills.

Successful reengineering projects in diverse industries and locations demonstrate how companies can expand the dimensions of their reengineering projects. Senior executives at Banca di America e di Italia (BAI), AT&T, and Siemens Nixdorf Service, for example, set broad goals, from creating a paperless bank at BAI to becoming the most customer-responsive and skilled computer-servicing company at Siemens Nixdorf. They then completely restructured all organizational elements – anything from the layout of BAI's branch offices to the skills required of AT&T's salespeople – in order to implement the new designs successfully.

Ultimately, however, a reengineering project – like any major change program – can produce lasting results only if senior executives invest their time and energy. As the experiences of BAI, AT&T, and Siemens Nixdorf reveal, large-scale reengineering exacts extraordinary effort at all levels of an organization. Without strong leadership from top management, the psychological and political disruptions that accompany such radical change can sabotage the project. Inevitably, managers and employees may feel that their turf, jobs, and organizational equilibrium are under attack. But top-level managers can overcome opposition to the new design if they approach reengineering as a painful but necessary disruption of the status quo.

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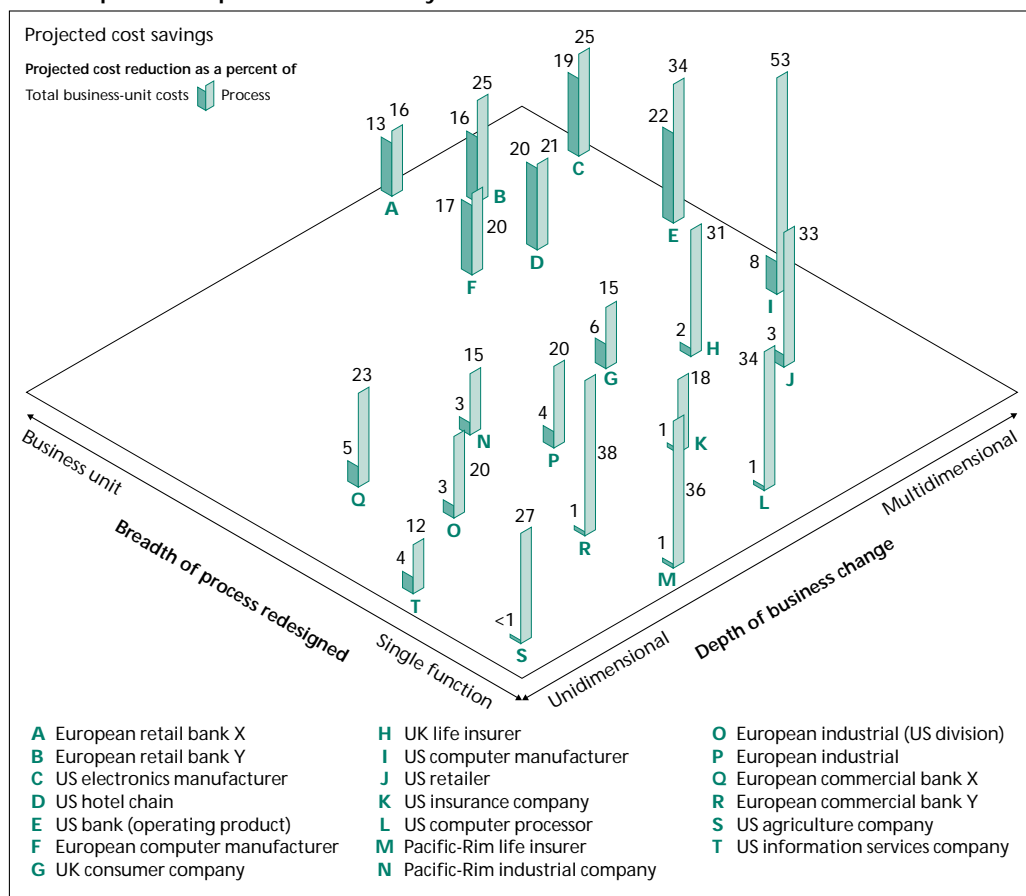
A reengineering project can produce lasting results only if senior executives invest their time and energy

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#### *Expanding the dimensions of reengineering*

Performance improvement in 11 of the 20 cases that we examined in detail measured less than 5 percent, whether evaluated in terms of change in

**Narrow-process improvements don't yield bottom-line results**



earnings before interest and taxes (EBIT) or in terms of reduction in total business-unit costs.\* Respectable results, but hardly the stuff of legend. On the other hand, many of the same cases reduced costs of the redesigned *process* by an impressive 15 to 50 percent. Narrow-process successes like these have led senior executives to expect overall business-unit improvements to follow suit (see Exhibit 1).

By taking a close look at the 20 detailed cases, we can see why most process reengineering efforts have in fact had little measurable impact on the overall business unit. A few common missteps emerge. On the one hand, redesign projects often aim at processes that are too narrow, and change only one or two of the depth levers. On the other hand, even with sufficient depth, efforts still focus on a process that is too narrowly defined and therefore has little discernible

\* In this article, we chose to report performance improvements primarily by using cost, both because it is the easiest way to compare efforts across industries and because reductions in cost are more directly attributable to performance-improvement efforts. However, we also measured total EBIT improvement in a number of cases and found the results consistent with the cost results.

impact on overall performance. Still more distressing, many managers never learn that their reengineering efforts do not have measurable impact. They analyze improvements relative to the process being redesigned rather than the business unit as a whole, or never develop performance tracking mechanisms to measure results.

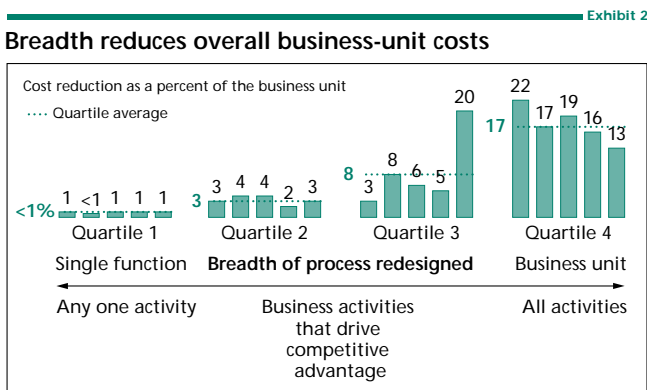
Only broad and deep projects produce widespread and long-lasting bottom-line results

Only six of the 20 companies that we analyzed in detail achieved an average 18 percent reduction in business-unit costs. These companies, importantly, had performance improvements along multiple dimensions – typically cost, revenue, time, and quality. Despite differences in industry, geographic region, and competitive situation, these companies designed and conducted their reengineering projects in strikingly similar ways. For all companies, expanding the dimensions of the redesign project was critical to success. Only those projects that were sufficiently broad *and* sufficiently deep produced widespread and long-lasting bottom-line results.

*Identifying breadth levers*

Managers must first identify the activities to include in the process being redesigned that are critical for value creation in the overall business unit. A process can be as narrowly defined as a single activity in a single function

or as broadly defined as the entire business system for the business unit. Our study divided cases into quartiles based on the breadth of the process being redesigned. At one end of the spectrum were companies that redesigned the narrowest processes, usually a single activity within a single function, such as accounts-payable processes. Middle-of-the-road



projects reengineered intrafunctional or cross-functional processes, such as new product development processes. And at the far end were companies that redesigned one or more processes that comprised most of the critical activities in the business unit (see Exhibit 2).

While the reengineering of single activities or functions can be important to companies with limited problems, a narrow approach to redesign cannot produce the kind of widespread results that many companies are looking for. Process breadth is important for two reasons. First, if more activities are

**FIND UNEXPECTED OPPORTUNITIES FOR REDESIGN**

<b>Opportunity</b>	<b>Example</b>
Eliminate problems caused upstream of activity	<p><b>Problem.</b> Errors in order entry at a US computer company were caused by sales representatives who incorrectly configured systems. As a result, the cost of the sales and order process was 30 percent higher than that of competitors, and the error rates for some products were as high as 100 percent.</p> <p><b>Redesign.</b> The cross-functional redesign fixed both the configuration problems and salesforce skills so that on-time delivery improved at significant cost savings.</p>
Remove delays or errors during handoffs between functional areas	<p><b>Problem.</b> The processing of a new policy at a UK insurance company involved ten handoffs and took at least 40 days to complete.</p> <p><b>Redesign.</b> A case-manager approach was implemented so that only one handoff occurred, and the policy was processed in less than seven days.</p>
Combine steps that span businesses and/or functions	<p><b>Problem.</b> At a US electronics equipment manufacturer, seven possible job titles in three different functions were involved in the nine steps required to provision hardware.</p> <p><b>Redesign.</b> All but two job titles were eliminated, leaving one job in sales and one job in manufacturing.</p>

included in the process, the improvements are more likely to extend throughout the entire business unit. Second, if a process includes interrelated activities, a company may identify incremental opportunities that would not surface in single-function performance-improvement efforts. Such opportunities include removing delays and errors in handoffs between functional areas, eliminating problems caused upstream of an activity, and, finally, combining steps that span business units or functions (*see insert*).

***Too broad or too narrow?*** Many reengineering efforts fail because of insufficient process breadth. Consider one European commercial bank's reengineering effort. By redesigning some of its back-office processes, the bank expected to reduce process costs by as much as 23 percent. However, the actual cost reduction, when measured in terms of total business-unit costs, was only 5 percent; EBIT improved by a scant 3 percent. The reason for such modest results: the bank overlooked many back-office processes in planning the redesign; in addition, back-office costs in general represented only 40 percent of the bank's total costs. The process, in short, had been too narrowly defined to have any significant impact on business-unit performance as a whole.

Still other reengineering efforts fail because of a *too* broad, indiscriminate approach. Indeed, a *diagnostic phase* is critical to a company's ability to deliver value to its customers and the bottom line. The key is to identify which two or three elements comprise customer value, as well as what defines the company's competitive advantage. The next step is to focus on the processes in those areas that fall short of customer expectations, management aspirations, and competitor performance.

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A diagnostic phase is critical to a company's ability to deliver value

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One insurance company, for example, thought initially that customers cared about having a broad portfolio of products and knowledgeable service representatives. However, in the diagnostic phase, the company conducted a comprehensive study of customer needs. It found that customers cared more about speedy claims processing, an area in which the company was underperforming. The reengineering performance objectives reflected this new information, and saved the company the wasted effort of redesigning processes less crucial to its competitive advantage.

In a less financially successful reengineering effort, another insurance company decided to reengineer its personal-insurance lines. Top-level managers, however, found the plan too risky because at first it included nearly \$1 billion in insurance payouts. During the diagnostic phase, they decided instead to reengineer a claim-settlement process that amounted to a mere 3 to 4 percent of the business-unit cost base. Because the company wanted to minimize disruption and opted for the quick fix, the reengineering project will most likely have a negligible effect on the performance of the business unit as a whole.

### *Manipulating depth levers*

The successful redesign of a broad process requires the complete restructuring of the key drivers of behavior so that actual results measure up to the redesign plan on paper. By depth we mean how many and how much the six depth levers referred to previously change as a result of reengineering.

Our study divided the cases into quartiles based on how many of the depth levers the redesign changed. In order to isolate depth from breadth, we measured cost reductions as a percent of the process being redesigned instead of as a percent of the business unit as a whole. The conclusion: companies that manipulate all six depth levers to bring about behavioral change show the most dramatic process-cost reduction (*see Exhibit 3*).

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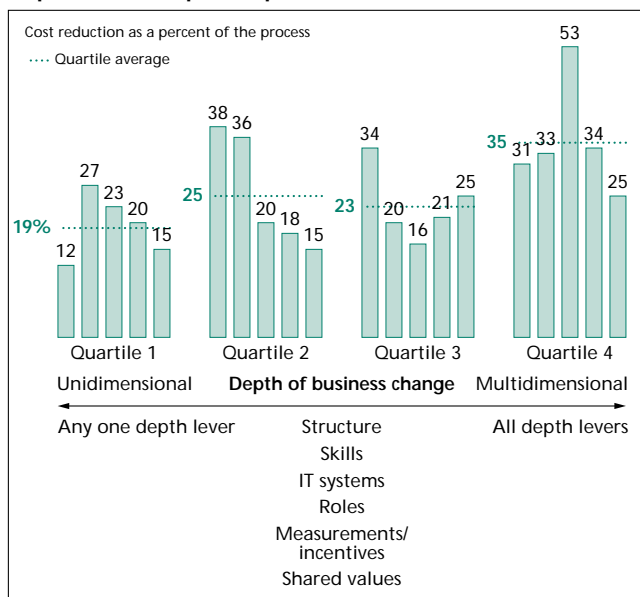
Companies that manipulate all six "depth levers" to bring about behavioral change show the most dramatic process-cost reduction

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One US electronics equipment manufacturer realized the hard way how critical addressing all the important depth levers can be to improving performance. Managers knew that one of the key performance problems was the large sales discounts given to the company's biggest customers. The redesign team felt that the solution lay in changing the existing revenue-based scheme to a profit-based one.

However, the company did not initially include compensation for its account executives in the redesign. As a result, despite new job aids and negotiation training, managers saw little improvement in discount levels. When the company eventually switched to a profit-based compensation plan, discount levels fell from 29 to 20 percent off the list price within a matter of weeks. The company has now projected an overall improvement in EBIT of 25 percent.

Depth reduces specific process costs



An effective transformation of all six depth levers requires a *clean-slate* approach to process redesign. Only then can companies avoid the classic reengineering pitfall trying to fix the status quo. If the redesign plans are sufficiently broad, all the old support systems will become obsolete – from IT systems to employee skills. Starting from scratch, companies can plan and build the new infrastructure required to realize the new design.

**If redesign plans are sufficiently broad, all the old support systems will become obsolete**

This new infrastructure should include programs like comprehensive training and skill-development plans that require years, not merely months, for success; performance-measurement systems that track how well the organization is meeting its targets and how employees should be rewarded based on those objectives; communication programs that help employees understand why and how their behavior must change; IT development plans that capture the benefits of new technology at a minimal investment while, at the same time, long-term structural changes are being made; and, finally, pilots that test and refine the redesign as well as its implementation.

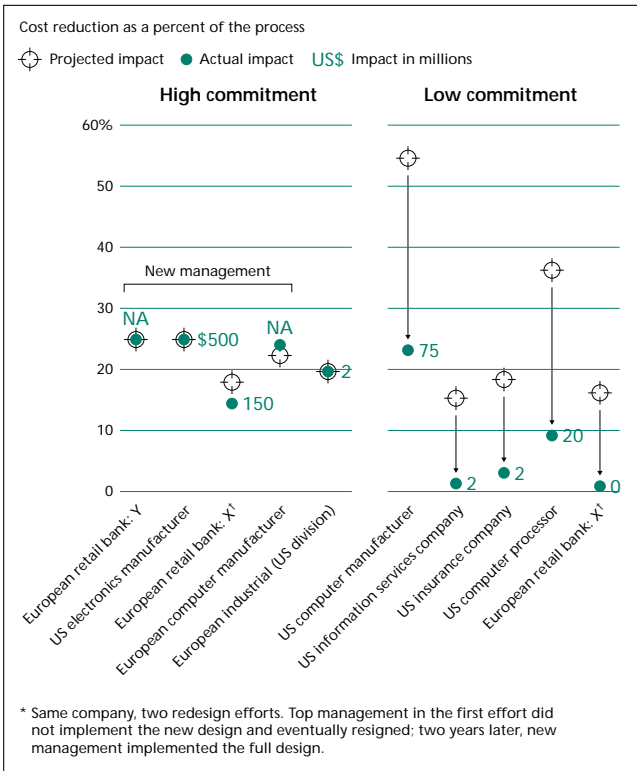
*Committing leadership to change*

Even with sufficient breadth and depth, a reengineering project will fail without the full commitment of senior executives. In nine of the cases studied, we evaluated the disparity between actual and projected impact of fully or almost fully implemented projects (see Exhibit 4). Five of these efforts have achieved their projected impact. And, interestingly enough, in four of these five

successes, new chief executives were brought in before or during the projects. These senior executives understood how to lead an organization through a period of radical change – they combined a tenacious pursuit of the performance objectives with a flair for building consensus at all organizational levels.

BAI, for example, brought in new management to make the bank competitive with other European banks. The new CEO demonstrated his strong commitment to the reengineering project by placing his best people on the redesign team, making significant investments in information technology and new skill training, managing by decree when necessary, and giving the team adequate

**Committed top managers help the redesign pay off** Exhibit 4



time to effect fundamental change. On the other hand, the management of a US insurance company did not aggressively sponsor its redesign project, leaving it to the redesign team to sell the package to the front line. Management refused to enlist its top people. As a result, the team did not command respect in the field, and the project failed.

In the most successful redesigns the study examined, managers made few compromises and were generous with resources. They saw implementation not as a once-and-for-all effort but as a series of waves washing over the organization for a period of years, leaving a system for continuous improvement in place. Most importantly, these executives invested their own time in the project. In the six reengineering projects that had significant business-cost reductions, top executives spent between 20 and 60 percent of their time on the project.



In contrast, a manager at a less successful company described the leadership of its process redesign as having “the nominal sponsorship of someone two layers down in the organization, but in actuality, it was driven by someone four layers down. The ultimate redesign ended up focusing on narrow contract and back-office sales processes and never really went anywhere in terms of implementation.”

The following profiles of BAI, AT&T, and Siemens Nixdorf Service provide detailed examples of companies that have undergone the difficult, but ultimately rewarding, process of reengineering. All three have developed the depth, breadth, and leadership that have ensured their projects’ success.

### **Maintaining strategic position at Banca di America e di Italia**

Picture this: a customer walks into a branch of a midsize Italian bank. In front of her is a small airy office where the securities officer sits, ready to assist her in making investment decisions. There are no other offices or “back-stage” spaces. Instead, a single line feeds to the three tellers; the manager sits at an open desk directly facing the line.

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A help screen on the teller’s terminal provides him with detailed information about CDs

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The customer fills out a deposit slip with her name, account number, total sum of the five checks she is depositing, and the amount to be withdrawn. No one is standing in line, so she steps up to the closest teller. The teller types in the account number and total amount of the deposit and then feeds the checks through a scanner. While he’s waiting the two or three seconds for the checks to be recorded in the system and for the correspondent bank to be notified electronically, he calls up the customer’s profile and sees that she looks like an excellent candidate for a certificate of deposit (CD). As a receipt containing detailed information about the five checks prints out, the teller asks the customer if she’s interested in a CD.

Meanwhile, a help screen on his terminal provides him with detailed information about CDs: their benefits and common customer objections and responses. After the discussion, he hands her the deposit receipt and some promotional material on CDs. The transaction has taken 30 seconds, and the checks have already been debited and credited to the appropriate parties. The teller will handle the checks only once more: when he counts the total number at the end of the day and reconciles that total to the one on his computer. And because of this new process, the teller doesn’t need any back-office support.

As futuristic as this scenario may sound, this is the Banca di America e di Italia today. Owned by Deutsche Bank, BAI has undergone a radical transformation. The CEO recalls, “We had very few strategic strengths, a very dispersed

network, and a very high operating-cost structure. We had to find a way to grow rapidly, while reducing the cost-per-branch and improving customer service.”

BAI’s transformation started with the CEO’s obsession to strengthen the bank’s strategic position by creating a “paperless” bank based on just-in-time manufacturing principles. The CEO immediately signed on Andrea Giochetta – currently BAI’s chief information officer – who shared the CEO’s drive and had the technological know-how to create a paperless bank.

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To reach its goal, the bank had to redesign all retail-branch transactions from scratch

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The two set out to redesign the branches, focusing on improving customer-service levels as well as

front-office efficiency and effectiveness. In this way, they could reduce the number of people per branch *and* open new branches. To reach this goal, they had to redesign all retail-branch transactions from scratch. With 80 to 85 percent of BAI’s revenue and costs coming from retail banking, the widespread branch redesign ensured that the project would be broad enough to produce bottom-line results.

*Diagnosis and clean-slate redesign: October 1988*

At BAI, two teams systematically diagnosed processes and then redesigned them without considering the constraints of the current organization. As a result, the teams came up with innovative new approaches to retail banking. First, the organization team, whose members came from all over the organization, broke down all transactions into ten “families”: payments, deposits, withdrawals, money orders, bills, consumer credit, foreign exchange, credit cards (merchant and card holder), sourcing, and end-of-the-day branch processes (the stocks, bonds, and securities process was included later). The team carefully documented the flow of a specific process within one of the families – depositing a check drawn from a correspondent bank into a customer’s account for instance. The analysis was painstakingly extensive,

covering accounting flow, all relevant forms used by both customers and the bank, and controls for maintaining financial security and integrity.

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The technology team worked independently of the organization team so that current system limitations did not influence the redesign

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With a detailed picture of a transaction, the team could effectively redesign it from scratch. The check-deposit transaction, for

example, previously required 64 activities, nine forms, and 14 accounts. After redesign, it needed only 25 activities, two forms, and two accounts. This redesigned process then became the prototype for restructuring all transactions within that family. Finally, the organization team handed off the prototype to the technology team, charged with thinking through the IT

implications. Giochetta explains that “We had the technology team work independently of the organization team so that current system limitations did not influence the organization team’s redesign.”

The technology team focused on how to store data at the maximum level of detail. The bank’s single-tier mainframe, with real-time connections to the branches, was already reaching full capacity during peak transaction times. To minimize the load on the central mainframes, the team developed a client-server architecture for prioritizing data – what information was needed for operating support and what data was needed for decision support, for example.

#### *Preparing for change: April 1989*

With a redesigned prototype for each transaction family, the organization team began redesigning all processes in each transaction family, some 300 processes in all. The team then began to think about depth, identifying the key organizational drivers that would determine the success of the redesign: What kind of back-office and front-office staff changes were necessary? What new skills or positions were required? What kind of physical layout would complement the new design?

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**What organizational  
drivers will determine the  
success of a redesign?**

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Meanwhile, the technology team set to work turning the prototype and IT principles into a real system. The team worked methodically, one transaction at a time, and met regularly with management to ensure that the project didn’t stray off course. Branch managers and tellers helped design screen displays, guaranteeing that branch staff would have an accessible screen and that the system would have well-trained champions. Finally, in less than 15 months, the team rolled out the software for the first family of transactions.

#### *Rollout: February 1990*

The software was rolled out as each transaction redesign became available: in other words, when the Verona branch went on-line, it received the system for only the first product family, while the 50th branch brought on-line received all of the family redesigns at once. Tellers underwent a five-day training period. In addition, branches were restructured to eliminate all back-office space, and the manager was placed directly out in front of the customer. Finally, a new securities-officer position was created, so that BAI could increase its share of securities transactions. As a result, securities customers increased 306 percent from 1987 to 1991.

Today, BAI customers are not the only beneficiaries of the streamlined branches. The bank has added 50 new branches without any increase in personnel and with minimal investment in systems development. The average number of personnel per branch has dropped from seven or nine to three or four. Daily

cashier closing time has shrunk from over two hours to ten minutes. And revenue has doubled from 1987 to 1992 (24 percent of that increase has been attributed to the reengineering effort). But Gianni Testoni, CEO for Deutsche Bank Group-Italy, has identified new areas for improvement, namely strengthening BAI's retail branch configuration and targeting new – and more profitable – customers. Because of its successful redesign, BAI is in a good position to meet these challenges.

### **Improving performance at AT&T**

Since the mid-1980s, AT&T's executive committee had been trying to improve the lackluster performance of Global Business Communications Systems (GBCS), the \$4 billion unit that sells business telephone systems (PBXs). By early 1989, frustration had set in. Despite credible progress, the business unit seemed to have hit a wall. According to GBCS President Jack Bucster, while each year the business unit met higher performance targets for individual functions, its overall performance did not improve.

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**Assign full-time team members from a wide range of functions**

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Believing that only radical change would invigorate performance, Bucster decided to assemble teams to redesign the business's core processes. Glenn Hazard, an 11-year veteran of AT&T known for building a top-performing sales branch from scratch, was enlisted as team leader to reengineer the process for selling and installing PBXs. Bucster also assigned full-time team members from a wide range of functions: sales, services, product management, Bell Labs, manufacturing, materials management, information systems, and training. Bucster was candid about the stakes of the project. If performance continued to stagnate, the PBX business would be sold or liquidated.

#### *Diagnostic: June 1989–February 1990*

The team took a wide-lens approach, surveying process steps from initial customer contact through to the collection of funds, including a range of system sizes, geographic areas, and customers. By interviewing employees and customers and following paper trails, the team reconstructed 24 cases which became the basis for the diagnostic. The team then pored over the cases, identifying every person involved, their activities, and how their time was spent.

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**Too many handoffs between functions and a lack of clearly defined roles and responsibilities result in significant inefficiencies**

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The team found several areas for improvement. First was the problem of rework. Too many handoffs between functions and a lack of clearly defined roles and responsibilities resulted in significant inefficiencies. An account

executive negotiated the sale; a system consultant determined the specifications for the system; and a system technician installed the hardware. In all, 16 handoffs were required to complete a system, and no one took responsibility for the entire transaction.

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**Front-line employees are often insensitive to profitability – largely because they lack information**

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The manufacturing and delivery cycle also generated excessive rework. Final installation often came months

or even years after the customer and account executive negotiated a deal. In the meantime, if the customer's needs changed dramatically, the system that had been agreed to earlier frequently came up short. The price of this delay was heavy: dissatisfied customers and substantial write-offs.

In addition, the team found that front-line employees were insensitive to profitability, largely because they lacked information. Marketing was often focusing on the least profitable customers, while sales concentrated on maximizing revenues, often to the detriment of the profitability of the deals they negotiated.

Finally, indirect expenses were excessive. The case studies revealed that headquarters and centralized support groups were not critical to selling and installing most of the systems, but the services of both were employed on virtually every system.

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**When salespeople sell many complex products, they often have only superficial familiarity with the products they are selling**

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But a still thornier issue hid beneath these problems. Critical line functions – namely, sales and manufacturing – did not report to the head of GBCS. At the time, AT&T had a single salesforce that sold PBXs, long-distance communications services, and other products to larger businesses. Given the size and demands of the long-distance business, salespeople often neglected the smaller PBX business. Moreover, because they sold so many complex products, they often had only superficial familiarity with the products they were selling. But customers expected salespeople to have in-depth technical knowledge about these products, and AT&T's competitors, whose salesforces specialized in a single product, could provide their customers with that high level of expertise.

Bucter was certain that creating a dedicated PBX salesforce was essential for success. Only then would the redesign be broad enough to include all the functions critical to selling and installing PBXs. This task, however, went far beyond the original scope of the project and could not be undertaken without the input of AT&T's executive committee. Fortunately, the other business units sharing the salesforce were coming to the same conclusion.

*Clean-slate redesign: March 1990–March 1991*

The executive committee agreed to the autonomous salesforce and turned to Pat Russo, a nine-year veteran of AT&T in a variety of sales and service roles, to build and run the new PBX salesforce. With Russo on board, Hazard's redesign team set to work in earnest. One key target was minimizing the time between sale and final installation.

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The team ran computer simulations of the effects of the redesigns on cost, cycle times, and error rates

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The team cut the number of project handoffs from 12 to three and created a new position, project manager, to oversee sales transactions from inception to completion. Sales and installation activities were integrated at the local branch level, and centralized sales support was greatly reduced. Finally, the team ran computer simulations of the effects of the redesigns on cost, cycle times, and error rates. The predictions were heartening: for a typical small system, cycle time would drop from three months to three weeks; total costs would drop by about one-third; and errors would approach zero.

The team then turned its attention to the organizational ramifications of the redesign. The radically different job responsibilities and skill redesigns posed an immense human-resource challenge. The staff would need training and job support to understand their new roles and the new emphasis on customers and profits. For example, before redesign, account executives focused on relationships rather than on technical expertise to sell their product. The redesign

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The redesign team convinced account executives that increased technical know-how would make them better salespeople

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team created a program that taught account executives the required new skills, while at the same time convincing them that increased technical know-how would only make them better salespeople.

The team also began to modify technical systems to support the redesign. Using PCs and off-the-shelf software, existing systems were simplified, and new systems were designed to reduce cycle times and provide accurate profit estimating and tracking on each job. In September, Hazard and the team tested their work in a pilot program and got results strikingly similar to those they had forecasted.

To direct additional senior management attention to the new design, Bucter asked Barry Karafin, then head of R&D, to oversee the project on a full-time basis. Karafin turned his immediate attention to ensuring that all conditions necessary for successful implementation were in place.

*Rollout: April 1991–April 1992*

As the pilot neared completion, Russo, Karafin, and Hazard faced another complication. Bucter, who had started and continuously supported the redesign effort, was transferred, and a new president, Jerre Stead, was brought in. What could have been a devastating setback became instead a vindication of the team's efforts. In fact, Stead was so impressed by the redesign project that he made it central to his program for the business.

And with good cause: admittedly, as the business accumulates experience, some job descriptions have been changed and some hastily assembled IT systems refined, but all in all, the results of the redesign have been dramatic and extensive. Customer willingness to repurchase has climbed from 53 to 82 percent; adjustments have dropped from 4 to 0.6 percent of revenues; bills paid within 30 days of installation increased from 31 to 71 percent; and 88 percent of customers rate the project management of their system sale and installation as "excellent." Russo has also noted a new profit and customer focus. The process changes at GBCS are successfully producing an analogous change in corporate culture.

**Retaining service levels at Siemens Nixdorf**

With 3.4 DM (\$2.1 billion) in revenues and a healthy profit margin, Siemens Nixdorf Service – which installs, services, maintains, and networks the computer software and hardware sold by two recently merged high-tech giants – hardly seemed a candidate for a radical redesign. But, in fact, by late 1990, the 12,900-person company was poised on the brink of crisis. With a shrinking volume of contractual maintenance and increasing manpower costs, the service organization would inevitably start to lose money by 1995 or 1996. In the face of increasing competition, Siemens Nixdorf's general manager for service, Gerhard Radtke, decided to assemble a ten-person project team to restructure headquarters, with the goal of reducing HQ personnel by 50 percent.

*Diagnostic: September–December 1991*

Radtke encouraged the redesign team to look at the entire business, not just HQ overhead, in the crucial diagnostic phase. The redesign team confirmed that from 1995 to 1996 the service business would start to lose money as a result of declining prices from increased competition. Moreover, the team concluded that the proposal to reduce HQ personnel costs was not sufficiently broad to stem future losses. The team was, however, able to identify a broad area for reengineering: the servicing process in the 11,400-person field-servicing organization. The goal of the redesign was to create the most highly skilled, cost-effective, and customer-responsive servicing company possible.

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**The goal of the redesign was to create the most highly skilled, cost-effective, and customer-responsive servicing company possible**

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Siemens Nixdorf operated through 30 support centers in Germany and other international locations, with more than 20 customer call points in Germany alone. After a customer called the nearest service branch, a reporting technician would be dispatched to diagnose the problem and, in most cases, would return to the branch to get the parts needed for any major repair.

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**Restructuring a cumbersome servicing process would increase service efficiency by 20 percent and, at the same time, improve customer responsiveness**

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Although most equipment could be repaired within a day or two, the system was generally inefficient. Each service branch was fully staffed with specialists continuously available

for telephone inquiries. For instance, each had its own BS 2000 mainframe-computer specialist, though few BS 2000 inquiries came in each day. In addition, only 10 to 12 percent of service problems were solved over the telephone. And repair technicians often had to make two trips to a customer to complete a job – the first for diagnosis, the second for repair.

The redesign team predicted that restructuring this cumbersome servicing process would increase service efficiency by 20 percent and, at the same time, improve customer responsiveness.

*Clean-slate redesign: January–June 1992*

The redesign team proceeded to reconfigure the service center. It reduced the number of support centers from 30 to five and established a regional management structure. At these centers, the company's top specialists from various branches and headquarters would work together for the first time.

Most important, the team introduced an entirely new level of efficiency into the servicing process, aiming at performing a high percentage of repairs remotely. In approximately 80 percent of the inquiries, an expert could diagnose the problem over the telephone and deliver the needed parts to the customer the following morning via a service technician's car or overnight air freight. As a result, most repairs could be taken care of after the customer's first service call.

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However, the restructuring of the organization's depth levers extended far beyond the reduction of customer service call points and the new support centers. The team also reduced the management hierarchy by two levels, created a new team structure for field technicians, and established a new supervisory technician position to provide additional on-site customer support. Then the team restructured headquarters, reducing personnel from 1,600 to 800 in order to place expertise out in the field and in direct contact with the customer.



But the restructuring didn't stop there. The information-technology system had to be modified to track customer-service requests and to support the logistics of the new replacement-part delivery system. In addition, measurements and incentives were changed to focus on quick customer problem resolution, and a new ongoing survey tracked customer satisfaction. Finally, a major communications program was designed for employees as well as customers to underscore the new customer-service culture.

#### *Preparing for change: August–October 1992*

In order to test the redesign and build support for change, Radtke launched one pilot of the redesign in Frankfurt and another joint-international pilot in Brussels and Paris. The pilots produced a 35 percent reduction in personnel *and* an increase in service-technician productivity from two to four customer calls a day. Return trips to the regional office were largely eliminated by loading the cars each night with the parts needed for the next day, and the percentage of problems solved remotely rose from 10 percent to over 25 percent. Most important, the pilots reached the redesign team's goal of reducing overall costs by 20 percent and increasing customer satisfaction.

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The pilots produced a 35 percent reduction in personnel and an increase in service-technician productivity

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#### *Rollout: November 1992–December 1993*

Because the redesign team did not limit its scope to the relatively narrow headquarters functions initially targeted in the diagnostic phase and instead restructured *all* the depth levers to support the redesign, the effort produced profit and cost improvements in excess of 10 percent. The redesign project reduced employee head count by approximately 20 percent through exit and severance packages and voluntary retirement. Radtke anticipates that the flexible service business infrastructure created by the reengineering project will enable the company to service a range of products beyond their own equipment: from equipment manufactured by other companies to peripherals.

### **Championing the new design**

The reengineering efforts at BAI, Siemens Nixdorf Service, and AT&T were led by committed CEOs and senior managers. But the long – and often arduous – process of reengineering can be very delicate politically, and each company weathered disruptions to varying degrees.

#### *Convincing the skeptics*

At BAI, dedicated senior executives shared a common vision and desire to succeed. They in turn assembled a strong team of top performers with diverse experiences and skills. BAI's CEO understood the necessity of unfaltering leadership. While he listened to management's concerns about the changes in

### FIVE WAYS TO REDESIGN SUCCESSFULLY...

The following five factors common to successful reengineering efforts emerged from our study:

**1. Set an aggressive reengineering performance target.** The target must span the entire business unit to ensure sufficient breadth. For example, aim for a \$250 million pretax profit increase to result from a 15 percent cost reduction and a 5 percent revenue increase measured across the business unit as a whole.

**2. Commit 20 percent to 50 percent of the chief executive's time to the project.** The time commitment may begin at 20 percent and grow to 50 percent during implementation stage. For example, schedule weekly meetings that inform the top manager of the project's status.

**3. Conduct a comprehensive review of customer needs, economic leverage points, and market trends.** For example, customer interviews and visits, competitor benchmarking, analysis of best practices in other industries, and economic modeling of the business.

**4. Assign an additional senior executive to be responsible for implementation.** The manager should spend at least 50 percent of his or her time on the project during the critical implementation stage.

**5. Conduct a comprehensive pilot of the new design.** The pilot should test the design's overall impact as well as the implementation process, while at the same time building enthusiasm for full implementation.

the system and the new teller roles, he was dedicated to doing whatever it took to implement the full redesign and make BAI competitive. In addition, he had a well-formed idea of his own part in the process: "My role was to act as a defender, so that daily urgencies didn't get in the way of the team's work. At the same time, I kept the tension up by calling frequently and by wandering around."

But not everyone was as convinced of the project's success, at least not at first. Felice Parente, who was brought on board to manage the technology team, was initially skeptical of the new design. Only when the prototype was declared a success could Parente, bolstered by his newly-won assurance, start to persuade his team of their future success.

Still, testing the prototype was only the first step in winning the confidence of middle managers and front-line employees. Giochetta believes that involving front-line employees in the design of the new system helped to create champions for the project in the field. And training and communications programs – like basic-skills training and brochures – also contributed to boosting employee confidence in the need for change.

#### *Powers of persuasion*

Radtke had a slightly more challenging political situation at Siemens Nixdorf Service. To ensure the breadth and depth of the redesign project, Radtke had to marshal all his powers of persuasion. He needed to convince the board of the

### ... AND FOUR WAYS TO FAIL

There are any number of ways that a reengineering project can fail. However, our study uncovered the following four particularly damaging practices:

**1. Assign average performers.** Companies tend to enlist average performers – most often from headquarters – for the project. Why? They reason that performance in the business unit will falter if they assign top performers to the redesign full time. For example, one company assigned a mediocre sales manager to head the project because he wouldn't be missed in the field. But because this manager lacked the credibility and skills to lead, the project ultimately failed.

**2. Measure only the plan.** Though most companies invest a lot of resources in estimating the effects of a redesign on cost, quality, and time before implementation, they rarely follow through with a comprehensive measurement system that can track the new process's performance as it is actually being rolled out. Without this kind of measurement system, it is impossible to tell if and why implementation is succeeding or failing. A good tracking system should measure location-specific results and individual employee performance.

**3. Settle for the status quo.** Companies generally strive to develop redesigns that are radically new. But, more often than not, they never translate their aspirations into reality. Most companies have a difficult time thinking outside their own skill level, organizational structures, or system constraints. Moreover, companies that do come up with innovative approaches find them watered down by political infighting during the implementation stage. Incentives and information technology, in particular, can be politically sensitive areas.

**4. Overlook communication.** Companies always underestimate the level of communication that must occur during the implementation stage. They tend to use only one method of communication, like memos, speeches, or PR videos. More often than not, they neglect the more time-consuming, but effective, small-group format in which employees can give feedback and air their concerns. It is essential to create a comprehensive communications program that uses a variety of methods of communication. It helps to assign a top-level manager to develop and implement an ongoing communications program.

urgent need for dramatic change throughout the service business; service managers of the urgent need to speed up the implementation of the redesign; and country managers and the Metal and Steelworkers Union of the urgent need to disrupt the status quo. Radtke recalls, "Because of the no-layoff culture and the organization's decentralized nature, the most difficult challenge was convincing the country managers and the union that the need was there and that changes would produce something better."

Given the potential for resistance, Radtke and his team focused on communicating openly and honestly with the organization as a whole. They told employees how much they would have to reduce head count and why, emphasizing the facts they had uncovered during the diagnostic phase. Two brochures about the new Siemens Nixdorf were printed, one for employees and one for customers; meetings were set up for managers and their employees; and basic skills training programs were begun.

Although pockets of resistance existed in the field and the union was initially against change, Radtke and the project team maintained their strong commitment to implementation of the new vision. “The redesign was not something we were doing because we wanted to do it,” Radtke explains. “We *had* to do it. We also knew that if we worked with people at all levels to convince them that this could work, we would have their support.”

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“The redesign was not something we were doing because we wanted to. We *had* to”

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Radtke’s willingness to keep lines of communication open was critical to defusing the political resistance that might have developed. Another key factor was his unfailing investment of time. “For the last two years, I have spent 60 percent of my time on the redesign project, constantly talking to individual managers and to union leaders, as well as meeting with the project team every two weeks,” he explains. Radtke’s communication program quickly circulated critical information. At the same time, Radtke says, “We have consciously built the morale of our workforce by defining a clear vision of the more professional, more efficient, and more successful company that we are becoming.”

### *Soothing ruffled feathers*

Like Radtke, AT&T’s Hazard resolved to dedicate his total effort to the project. But he was equally aware – and wary – of the risks, saying, “I did not want to be a crusader who never came back from the crusades.” When, for example, the PBX management team began to understand the radical nature of the redesign, it got cold feet. Many managers could not believe that improved service levels could be delivered with so large a reduction in resources. They were worried that the team’s design would not work; because of the breadth and depth of the project, the business might collapse if the new process were implemented. Indeed, more than a few feathers were ruffled by the proposed changes. Functional managers, for example, found their areas changing and the balance of power shifting. Naturally, some resisted the changes.

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Defining a clear vision of a more professional, more efficient, and more successful company can build morale

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In the end, the courage to go forward came from AT&T’s executive committee, who made it clear that the PBX business *had* to improve. The pilot had proven, after all, that the redesign had the potential to improve performance greatly. Pat Russo brought her senior managers together and made sure that they understood that implementation would proceed immediately. While at times privately fearful that the plan might not work, she publicly gave her unequivocal support to the new approach, and she made successful implementation a key measurement for her field managers.

The radical changes of the reengineering project were initially met with resistance by the managers and employees who would have to make the changes work. The clear commitment of the leadership team was central to developing the necessary depth of commitment throughout all levels of the organization. And the assignment of Karafin to oversee implementation was an essential element in maintaining the commitment to the project. His full-time attention to the redesign project signaled the seriousness with which the business as a whole approached the reengineering project.

Because he was an established member of the business unit's senior management team, Karafin was able to garner and shore up support for the project. And while Hazard was focusing on the day-to-day running of the reengineering team and Russo was concentrating on the day-to-day running of the salesforce, Karafin could concentrate on the broader issue of identifying roadblocks to successful implementation. With leadership at all levels of the organization committed to the redesign, the project's success was guaranteed.

### *Two-way communication*

In any redesign project, senior executives must overcome resistance and convince employees of the need for change. Ignored or ill handled, the politics of redesign can doom an otherwise successful project. Think about what can happen during a reengineering effort of sufficient breadth and depth: the executive committee has not really bought into the new design; employees do not recognize the need for change; organizational rumors create anxiety and affect productivity; employees feel disempowered and confused about how their behavior will have to change; and valuable people begin to circulate their résumés.

Once top-level managers have resisted the temptation to stick with the status quo and have dedicated themselves and their best performers to the project, they must take a final – and crucial – step. By communicating openly, using a variety of methods, managers will encourage frank discussion, build consensus and commitment, ensure a common understanding of the need for change, foster participative problem solving, celebrate and reinforce accomplishments, and make continuous improvement a company value.

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**The clear commitment of the leadership team was central to developing the necessary depth of commitment throughout all levels of the organization**

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The problem is that most executives think that they can accomplish all this with a memo and a slick video of the CEO talking about the need for change. But this is only the beginning. Managers must approach communication as an interpersonal activity. To memos and videos add a half-day off-site followed by a casual lunch, small group meetings of employees and their managers, and town-hall meetings with senior executives. Managers must give employees

sound reasons for and explanations of the new design, a forum for voicing concerns, and feedback to show those concerns are being heard.

This kind of two-way communication will do far more than any memo or video can. It will help create champions of the new design throughout all levels of the organization. And those champions are the final key to making long-lasting, widespread improvements a reality. **Q**

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