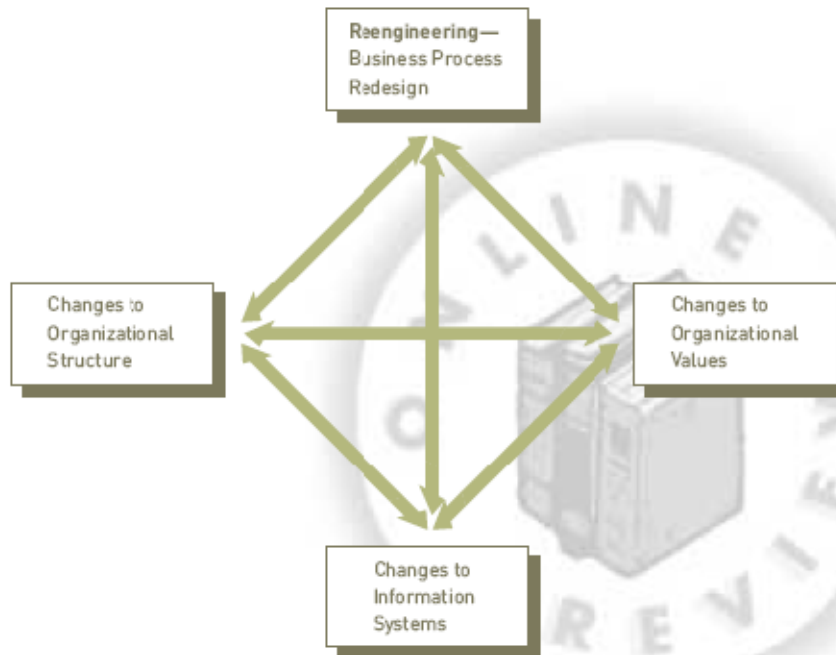# Reengineering

To stay competitive, organizations must occasionally make fundamental changes in the way they do business. In other words, they must change the activities, tasks, or processes that they use to achieve their goals. **Reengineering**, also called **process redesign**, involves the radical redesign of business processes, organizational structures, information systems, and values of the organization to achieve a breakthrough in business results (see Figure 2.8). Reengineering can reduce delivery time, increase product and service quality, enhance customer satisfaction, and increase revenues and profitability. As a result of increased electronic trading, the Securities Industry Association is radically reengineering the communications systems used for stock and securities trading. The new communications systems will be fully implemented by 2005. The reengineering also calls for a new settlement system, called Straight-Through Processing.

A business process includes all activities, both internal (such as thinking) and external (such as taking action), that are performed to transform inputs into outputs. It defines the way work gets done. A few companies still process a customer order manually using several different people. The order moves from one step to the next, allowing people to make numerous errors and create misunderstandings. Today, most companies have computerized

customer ordering, saving money and reducing possible errors. This simple example illustrates the fundamental changes reengineering creates, often across multiple departments. But asking people to work differently often meets with stiff resistance, and change is difficult to maintain—the values of the organization and its employees must be changed also. In the previous example of order processing, the original work process may have evaluated employees on how many orders were entered each day. Under the reengineered process, they may be evaluated on different factors associated with customer service—percentage of orders delivered on time or accuracy of customer bills. Helping employees understand the benefits of the new system is a major hurdle.

In contrast to simply automating the existing work process, reengineering challenges the fundamental assumptions governing their design. It requires finding and vigorously challenging old rules blocking major business process changes. These rules are like anchors weighing a firm down and keeping it from competing effectively. Examples of such rules are given in Table 2.1. The Tennessee Valley Authority (TVA), for example, embarked on its largest and most-aggressive IS reengineering project in history to improve efficiency and reduce power costs. The efficiency from the new system allowed TVA to purchase in volume and save the company $23.5 million. According to the senior vice president of information systems, "From the sheer magnitude, it was the largest undertaking of the agency's history."[11] Other companies and organizations are also using reengineering to improve processes and reduce errors. Tiny radio-frequency microchips are being placed onto products to track their location and reduce errors.[12] The Johns Hopkins hospital in Baltimore, for example, will be one of the first hospitals to use radio-frequency chips on its drugs. In addition to cutting costs and reducing errors, the chips should also curb drug counterfeiting. Today, many companies use reengineering to increase their competitive position in the marketplace. Reengineering, however, can be disruptive, expensive, and time-consuming to implement.[13]

Table 2.1

Selected Business Rules That Affect Business Processes

Rule	Original Rationale	Potential Problem
Small orders must be held until full-truckload shipments can be assembled.	Reduce delivery costs.	Customer delivery is slowed—lost sales.
No order can be accepted until customer credit is approved.	Reduce potential for bad debt.	Customer service is poor—lost sales.
All merchandising decisions are made at headquarters.	Reduce number of items carried in inventory.	Customers perceive organization has limited product selection—lost sales.

Continuous Improvement

continuous improvement
Constantly seeking ways to improve the business processes to add value to products and services.

The idea of **continuous improvement** is to constantly seek ways to improve the business processes to add value to products and services. This continual change, in turn, will increase customer satisfaction and loyalty and ensure long-term profitability. Manufacturing companies make continual product changes and improvements. Service organizations regularly find ways to provide faster and more effective assistance to customers. By doing so, these companies increase customer loyalty, minimize the chance of customer dissatisfaction, and diminish the opportunity for competitive inroads. ArvinMeritor, Inc., for example, has a vice president of continuous improvement and quality to constantly improve the quality of its products and services.[14] The company is a large, $7-billion global supplier of automotive parts and supplies.

Organizational commitment to goals such as continuous improvement can be supported by the strategic use of information systems. Continuous improvement involves constantly improving and modifying products and services to remain competitive and to keep a strong customer base. Table 2.2 compares reengineering and continuous improvement.