
Reengineering

A Radical Approach to Business Process Redesign

**A concept paper from
The LearningSource
at the OSD Comptroller iCenter**

Reengineering

A Radical Approach to Business Process Redesign

Government business process reengineering is a radical improvement approach that critically examines, rethinks, and redesigns mission product and service processes within a political environment.

Dr. Michael Hammer, a Massachusetts Institute of Technology computer sciences professor, and James Champy, Chairman of CSC Index, gave new life and vigor to the concept of reengineering in the early 1990s with the release of their book *Reengineering the Corporation: A Manifesto for Business Revolution* (Harper Business, 1993). The authors admitted that they were “discoverers” rather than inventors of reengineering, which had been around for some time before they brought attention to it. They sought to define, clarify, and systemize reengineering into a deliberate process which they called Business Process Reengineering (BPR). Now, nearly a decade old, BPR is no longer the latest and hottest management trend. In spite of its many permutations, BPR has lasted. It still has much of value to offer organizations engaged in transforming their business processes.

The Essence of BPR

Hammer and Champy argued that businesses needed to move beyond how things were done during the age of the mass market. They noted that in today’s business environment nothing is constant or pre-

dictable—not market growth, customer demand, product life spans, technological change, or the nature of competition. As a result, customers, competition, and change have taken on entirely new dynamics in the business world. Customers now have choice, and they expect products to be customized to their unique needs. Competition, no longer decided by “best price” alone, is dependent on other factors such as quality, selection, service, and responsiveness. In addition, rapid change has diminished product and service life cycles, making the need for inventiveness and adaptability even greater.

This mercurial business environment requires a switch from a *task* orientation to a *process* orientation, and it requires re-inventing how work is to be accomplished. As such, reengineering focuses on fundamental business processes as opposed to departments or organizational units.

In the second half of the 1980s companies such as Ford Motor Company and Taco Bell embarked on radical programs of business improvement never before seen in American industry. Faced with global competition and increasingly demanding customers,

these companies realized that their old methods for developing, making, and selling products were no longer adequate. Forced to choose between guaranteed failure and radical change, they opted for radical change. They began to examine themselves with completely new slates . . . tearing down old ways of doing business and beginning afresh. They began to *reengineer*.

Reengineering Defined

“Reengineering is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service, and speed.”

—Hammer and Champy, 1993

The National Academy of Public Administration recast this definition for government:

“Government business process reengineering is a radical improvement approach that critically examines, rethinks, and redesigns mission product and service processes within a political environment. It achieves dramatic mission performance gains from multiple customer and stakeholder perspectives. It is a key part of a process management approach for optimal performance that continually evaluates, adjusts or removes processes.”

—NAPA, 1995

As BPR enters a new century, it has begun to undergo a resurgence in popularity. Companies have seen real benefit in evaluating processes before they implement expensive technology solutions. By deconstructing processes and grading them in terms of whether they are value-added or non-value-added activities, organizations are able to pinpoint areas that are wasteful and inefficient. Particularly, as organizations begin to look at Enterprise Resource Planning (ERP) systems, they have seen that many systems have been built based on departmental

needs, rather than being geared to a specific process. A process, by contrast, can span several departmental units, including accounting, sales, production, and fulfillment.

What it's not

Reengineering is not *reorganizing*. Modifying how an organization is structured and redesigning that organization's business processes are two different things. An organizational structure should be designed so that it best supports those redesigned business processes.

Reengineering also is not *downsizing*. By the mid-1990s, reengineering had gained a reputation for being synonymous with dramatic reductions in staff. This was never its intention. Downsizing focuses on the reduction of workforce to achieve short-term cost savings. Remedies such as across-the-board budget cuts, hiring and salary freezes, and reorganization do not address the systemic issues behind poor government processes. Reengineering, on the other hand, focuses on rethinking from the ground up, eliminating work that is unnecessary, and finding more efficient ways of doing the work that is. Rather than eliminating employees, it focuses on optimizing efforts and getting rid of non-value-added activities.

A different approach in government

Some have argued that government activities are often policy generators or oversight mechanisms that appear to add no value, yet cannot be eliminated. They question how reengineering could have applicability in the public sector. Government only differs from the commercial sector in terms of the *kinds* of controls and customers it has. It still utilizes a set of processes aimed at providing services and products to its customers.

And reengineering is consistent with the new form of governance that has emerged during the Information Age—one that favors mission-driven, results-oriented activities.

Even with this new focus, there are some elements of the public sector that will not change and remain challenging for reengineering implementers. For instance, government agencies are subject to greater political executive management and oversight. Election cycles and administration changes, at least

continued on page 5

Transitions That Must Take Place in Any Government Reengineering Approach

TRANSITION FROM—

Paper-driven	TO ELECTRONIC-BASED
Hierarchical	TO NETWORKED
Power by hoarding information	TO POWER BY SHARING INFORMATION
Appropriations funding	TO LEVERAGED-COST FUNDING
Stand-alone	TO VIRTUALAND DIGITAL
Compliance-oriented	TO PERFORMANCE-ORIENTED
Control-oriented	TO BENCHMARK-ORIENTED
Sole resident experts	TO TEAMS BY TALENT
Stovepipe organizations	TO HONEYCOMBED ORGANIZATIONS
Oversight agencies	TO COACHING AGENCIES
Single agency projects	TO COOPERATIVE PROJECTS
Information-limited environment	TO INFORMATION UNLIMITED ENVIRONMENT
Delayed access	TO INSTANT ACCESS
Slow response	TO PROMPT RESPONSE
Data entered more than once	TO DATA ENTERED ONCE
Technology-fearful	TO TECHNOLOGY-SAVVY
Business as usual	TO ROUTINELY IMPROVING
Decisions pushed to top of the agency	TO DECISIONS PUSHED TO THE CUSTOMER TRANSACTION
People do processing; limited time for critical thinking	TO PEOPLE DO CRITICAL THINKING; SMART TECHNOLOGY DOES PROCESSING

See: *Government Business Process Reengineering (BPR) Readiness Assessment Guide*, General Services Administration (GSA), 1996

every four years, also impact reengineering efforts. Governments also cannot revise or depart from their missions and operations, whereas in the private sector there is much greater discretion to change business orientations. Legislation, taxpayer accountability, competition for funding and resources, continuous change, as well as partnerships with international, state, and local governments will continue to challenge government agencies as they reengineer.

Perhaps the most critical challenge for government lies in the area of risk-taking. Historically the culture of government has been to avoid risk. Any successful reengineering effort will need to embrace change and negotiate some degree of risk.

The Principles of Reengineering

In Hammer and Champy's original *Manifesto* reengineering was by definition *radical*; it could not simply be an enhancement or modification of what went before. It examined work in terms of outcomes, not tasks or unit functions, and it expected dramatic, rather than marginal improvements.

The authors suggested seven principles of reengineering that would streamline work processes, achieve savings, and improve product quality and time management.

1. Organize around outcomes, not tasks.
2. Identify all the processes in an organization and prioritize them in order of redesign urgency.
3. Integrate information processing work into the real work that produces information.
4. Treat geographically dispersed resources as though they were centralized.
5. Link parallel activities in the workflow instead of just integrating their results.
6. Put the decision point where the work is performed, and build control into the process.
7. Capture information once and at the source.

The Benefits of Reengineering

The hard task of re-examining mission and how it is being delivered on a day-to-day basis will have fundamental impacts on an organization, especially in terms of responsiveness and accountability to customers and stakeholders. The rewards of reengineering are many:

- It empowers employees;
- It eliminates waste, unnecessary management overhead, and obsolete or inefficient processes;
- It produces often significant reductions in cost and cycle times;
- It enables revolutionary improvements in many business processes as measured by quality and customer service; and
- It helps top organizations stay on top and low-achievers to become effective competitors.

The Reengineering Vision

According to DoD's *Planning for Business Process Reengineering*, an online tutorial, BPR is based on a horizontally structured enterprise organized around key business processes. Features of the BPR vision include:

Shared Information—Information must be maintained, managed, and made available when it is needed for critical decision-making.

Mission Support—When business processes are redesigned they should strengthen mission support. Those that do not add value to mission achievement should be eliminated.

Functional Leadership—Reengineering can be risky. Recent surveys estimate the percentage of BPR failures to be between 50 and 70%. If there is one message that has been reinforced over and over, it is the need for executive-level leadership and commitment to the process. All federal agency heads must participate in and take responsibility for the management of his or her agency's core processes.

Without leadership throughout the Department, process improvement efforts will falter.

Reduced Costs—Activities that increase the cost of doing business but provide no benefits to stakeholders are to be reduced or eliminated.

Reusable Technology—There should be a shift from custom-developed, unique information management systems to the use of off-the-shelf technologies that support standard business processes.

Single Interface—Federal agencies should have to master only one system interface for accessing their agency’s information resources.

Just-in-Time—Information, training, and support should be delivered electronically to the work site at the precise time they are needed.

Reengineering: A Functional Management Approach

Reengineering can generate a significant change in product and service requirements; a significant change in controls or constraints imposed on a business process; or a significant change in the technological platform that supports the business process. Implementation of a reengineering initiative usually has considerable impacts across organizational boundaries, as well as impacts on suppliers and customers. For this reason, it requires both a sensitivity to employee attitudes as well as to the ramifications of change on their lives.

The “Process Team”

Those responsible for a specific process and the reengineering effort focused on it, are called *process owners*. The reengineering team consists of designers, implementers, and people well versed in technology. The team should be cross-functional, and include members from all potentially impacted organizations.

What is a business process?

“A business process is a structured, measured set of activities designed to produce a specified output for a particular customer or market.”

Selecting a process

Wise organizations will focus on those core processes that are critical to their performance, rather than marginal processes that have little impact. There are several criteria reengineering practitioners can use for determining the importance of the process:

- Is the process broken?
- Is it feasible that reengineering of this process will succeed?
- Does it have a high impact on the agency’s strategic direction?
- Does it significantly impact customer satisfaction?
- Is it antiquated?
- Does it fall far below “Best-in-Class”?

DoD has suggested that the following tasks be part of any functional management approach to reengineering projects:

• Step 1. Define.

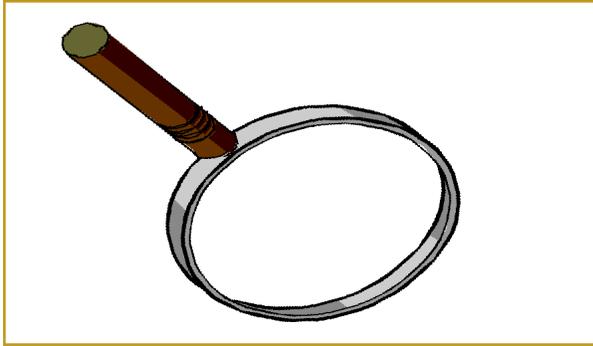
Define functional objectives; determine the functional management strategy to be followed in streamlining and standardizing processes; and establish the process, data, and information systems baselines from which to begin process improvement. A framework is established by defining these baselines, objectives, and strategies for the function.

• Step 2. Analyze.

Analyze the business processes to eliminate non-value-added processes, simplify and streamline limited value added processes, and examine all processes to identify more effective and efficient alternatives to the process, data, and system baselines.

Understanding a process

Analyzing a process involves looking at how things are currently done, what changes are occurring, and what new contingencies exist in the current business environment. It requires determining where the process begins and where it ends—the boundaries of the process—and understanding the underlying reasons why a process is performed in the way that it is. In executing this analysis, agencies may realize that the dramatic change involved in a more orthodox BPR effort might not be necessary. A slower, incremental approach might be more appropriate.



• Step 3. Evaluate.

Evaluate alternatives to baseline processes through a preliminary functional economic analysis to select a preferred course of action.

Looking ahead

Strategic benchmarking is an excellent way to evaluate baseline processes and core competencies, and to identify performance gaps. During this process, a reengineering team will be challenged to consider new technologies and ways of processing information. Knowledge management, the sharing of data across the organization, will eliminate redundancies and increase internal communication. Reengineered processes may also require a change in the values, culture, and belief systems of an organization. That’s why leadership and effective change management are critical as teams begin to map out an implementation strategy.

• Step 4. Plan.

Plan implementation of the preferred course of action by developing detailed statements of requirements, baseline impacts, costs, benefits, and schedule.

• Step 5. Approve.

Extract from the planning data the information needed to finalize the functional economic analysis, which is used by senior management to approve proceeding with the proposed process improvements and any associated data or system changes.

• Step 6. Execute.

Execute the approved process and data changes, and provide functional management oversight of any associated information system changes. Technical developers provide information system changes on a fee-for-service basis in response to the OSD

Principal Staff Assistant's validated requirements, and in conformance with a DoD-wide technical integration and migration strategy.

BPR By Any Other Name . . .

Although the original definition of BPR focused on the “radical” redesign of business processes, Hammer and Champy now view the most important word in the definition to be “process”—a complete end-to-end set of activities that together create value for a customer. Subsequently, BPR has evolved in recent years to reconcile with more incremental approaches, such as Total Quality Management (TQM). Many other concepts, including knowledge management, employee empowerment, and benchmarking have been integrated into the BPR model, and there has been a new emphasis given to slow but steady process improvements as opposed to extreme overhauls.

Reengineering and Information Technology

Reengineering and automating a process are not the same thing. As Hammer and Champy point out, automating is often little more than “paving the cowpaths” of processes that are redundant or inefficient. This is not what reengineering is about.

Many organizations have spent millions of dollars on information technology, automating existing processes, without determining whether or not those processes were even necessary. Only after business processes have been streamlined and redesigned, should automation be applied.

Reengineering must work hand-in-hand with information technology to consider cutting-edge innovations—things never attempted before. In a reengineering project, IT is an “essential enabler.” Many processes can’t be reengineered without it. In keeping with reengineering’s “ambitious” approach, information technology should be anticipatory; it should answer problems the consumer doesn’t know he has yet.

“Automating an already bad process just makes it easy to do the wrong thing faster.”

A reengineering renaissance

The obsession many American corporations have had in recent years with expensive and complex software programs, partially in response to the Y2K challenge, has meant that people have looked to systems overhauls as panaceas, without ever really examining the processes that underlie them. Companies are rediscovering that significant gains can be achieved when process issues are put first and technology issues second.

Ensuring Reengineering Success

Much research has been conducted to determine why many reengineering projects fail or miss the mark. DoD has indicated that successful reengineering planning organizations have a number of common elements: they are strongly supported by the CEO; they are small or medium-sized elements; most have a willingness to tolerate change and to withstand the uncertainties that change can generate; and many have systems, processes, or strategies that are worth hiding from competitors.

Six critical success factors from government experience

In a publication for the National Academy of Public Administration, author Dr. Sharon L. Caudle identified six critical success factors that ensure government reengineering initiatives achieve the desired results:

1. Understand reengineering.

- Understand business process fundamentals.
- Know what reengineering is.
- Differentiate and integrate process improvement approaches.

2. Build a business and political case.

- Have necessary and sufficient business (mission delivery) reasons for reengineering.
- Have the organizational commitment and capacity to initiate and sustain reengineering.
- Secure and sustain political support for reengineering projects.

3. Adopt a process management approach.

- Understand the organizational mandate and set mission-strategic directions and goals cascading

to process-specific goals and decision-making across and down the organization.

- Define, model, and prioritize business processes important for mission performance.
- Practice hands-on senior management ownership of process improvement through personal involvement, responsibility, and decision-making.
- Adjust organizational structure to better support process management initiatives.
- Create an assessment program to evaluate process management.

4. Measure and track performance continuously.

- Create organizational understanding of the value of measurement and how it will be used
- Tie performance management to customer and stakeholder current and future expectations.

5. Practice change management and provide central support.

- Develop human resource management strategies to support reengineering.
- Build information resources management strategies and a technology framework to support process change.
- Create a central support group to assist and integrate reengineering efforts and other improvement efforts across the organization.
- Create an overarching and project-specific internal and external communication and education program.

6. Manage reengineering projects for results.

- Have a clear criteria to select what should be reengineered.
- Place the project at the right level with a defined reengineering team purpose and goals.
- Use a well-trained, diversified, expert team to ensure optimum project performance.
- Follow a structured, disciplined approach for reengineering.

Impediments to success

Apart from lack of top-level leadership, some of the problems that have plagued BPR efforts are related to the lack of performance measurement information, of cost drivers, and insufficient process mapping. In addition, Hammer and Champy have suggested a number of other factors that can hinder BPR success:

1. Try to fix a process instead of changing it.
2. Don't focus on business processes.
3. Ignore everything *except* process redesign.
4. Neglect people's values and beliefs.
5. Be willing to settle for minor results.
6. Quit too early.
7. Place prior constraints on the definition of the problem and the scope of the reengineering effort.
8. Allow existing, corporate cultures and management attitudes to prevent engineering from getting started.
9. Try to make reengineering happen from the bottom up.
10. Assign someone who doesn't understand reengineering to lead the effort.
11. Skimp on the resources devoted to reengineering.
12. Bury reengineering in the middle of the corporate agenda.
13. Dissipate energy across a great many reengineering projects.
14. Attempt to reengineer when the CEO is two years away from retirement.
15. Fail to distinguish reengineering from other business improvement programs.
16. Concentrate exclusively on design.
17. Try to make reengineering happen without making anybody unhappy.
18. Pull back when people begin to resist making reengineering's changes.
19. Drag the effort out.

See:

—*Business Process Reengineering Assessment Guide*, GAO/AIMD-10.1.15. Version 3, May 1997

—*Government Business Process Reengineering (BPR) Readiness Assessment Guide*, General Services Administration (GSA), 1996

—*Planning for Business Process Reengineering*, Department of Defense (DoD)

—*Reengineering for Results: Keys to Success from Government Experience*, by Dr. Sharon L. Caudle, National Academy of Public Administration, 1995

—*Reengineering the Corporation: A Manifesto for Business Revolution*, by Michael Hammer and James Champy, 1993

—*Successfully Performing BPR*, by Michael Covert, Visible Systems Corporation, 1997

© 2002, OSD Comptroller iCenter

About the OSD Comptroller iCenter

The OSD Comptroller iCenter is a comprehensive online information and education resource related to the DoD budget process, financial management, and best business practices.

For more information, visit the iCenter at:

<http://www.dtic.mil/comptroller>