



Business Process Reengineering: IT-Enabled Radical Change

*“When someone asks us for a quick definition of business process reengineering, we say that it means “starting over.” It **doesn’t** mean tinkering with what already exists or making incremental changes that leave basic structures intact. It isn’t about making patchwork fixes—jury-rigging existing systems so that they work better. It does mean abandoning long-established procedures and looking afresh at the work required to create a company’s product or service and deliver value to the customer.”¹*

- Michael Hammer and James Champy

Business process reengineering (BPR) refers to the radical redesign of processes to achieve dramatic performance improvements. Successful execution of BPR is believed to require simultaneity in business process redesign (i.e., sorting out how to do things differently), retooling of IT applications and infrastructures, and re-orchestration of new IT-enabled organizational behavior. BPR has been defined as “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.”²

BPR is viewed by many as a critical success factor for organizations in the 1990s. BPR is a direct attack against the principles of functional specialization and incremental improvement that lie at the very foundation of the industrial revolution. Total customer satisfaction, global cost competition, cycle time improvement, extended enterprise, self-managed teams, and other business imperatives of the 1990s require organizations to overhaul functional processes and structures they have cemented together, often with Cobol programs, over several decades. BPR combines creative *destruction* and *construction* to rebuild a high performing organization. A number of BPR success stories illustrate how information technology-enabled redesign of cross-functional core processes can bring about ten-fold improvements in cost, time, or quality. In many firms BPR is no longer a strategic agenda item; it has become the agenda.

¹Hammer, Michael and James Champy, *Reengineering the Corporation*, 1993, NY: HarperCollins Books, p. 31.

²Ibid, p.32.

Professor Donna Stoddard and Professor Sirkka Jarvenpaa of University of Texas at Austin prepared this note for the purpose of class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

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BPR: A Process Perspective

A process refers to a collection of activities that taken together, create value for a customer. “A process perspective implies a strong emphasis on *how* work is done within an organization, in contrast to a product focus emphasis on *what*.”³

Traditionally organizations have organized to focus on products. The functional hierarchy and its derivatives supported such a product focus. A manager responsible for BPR in a financial services company noted: “We are structured as we are today by historical accident. As we added products, we added functional stovepipes.” Further, managers were encouraged to follow the principles of scientific management and divide work into independent tasks. As a result, individual jobs became simple, but over time the process of coordinating people (the role of the hierarchy) became more complex.

A process perspective implies adopting the customer’s point of view. A process approach to organizing can be contrasted with a hierarchical structure in that a process can be measured. “While we cannot measure or improve hierarchical structure in any absolute sense, processes have cost, time, output quality, and customer satisfaction. When we reduce cost or increase customer satisfaction, we have bettered the process itself.”⁴

The Role of IT

Early applications of information technology focused on automating tasks with the objective of speeding up and improving the accuracy of work performed given the traditional structure. Yet organizations that wish to engage in BPR must view IT as an enabler of business process change, not as an automation tool. According to Hammer and Champy:

The fundamental error that most companies commit when they look at technology is to view it through the lens of their existing processes. They ask, “How can we use these new technological capabilities to enhance or streamline or improve what we are already doing?” Instead, they should be asking, “How can we use technology to allow us to do things that we are not already doing?” Reengineering, unlike automation, is about innovation. It is about exploiting the latest capabilities of technology to achieve entirely new goals. One of the hardest parts of reengineering lies in recognizing the new, unfamiliar capabilities of technology instead of its familiar ones.⁵

Information technology is usually a necessary but insufficient factor to achieving business process reengineering. On one hand, IT has been described as both a strategic catalyst and an enabler of BPR. On the other hand, managers have also described the absence of needed IT capabilities as a major inhibitor to BPR. For example, a manager described how the data architecture that the company’s London office had established in the late 1980s made it relatively easy to develop new applications to support a process that had been redesigned. The lack of such a well defined data architecture in the US meant that significantly more resources had to be committed to accomplish applications of a similar scope.

³Davenport, T., *Process Innovation*, 1993, Boston, MA: Harvard Business School Press, p. 4.

⁴Ibid, p. 8.

⁵Hammer and Champy, op. cit., p. 85.

Managing Change

Change is the alteration of one state to another. Organizational change is typically modeled as a three-part process that takes an organization (or subunit) from its current state through a transition period to some desired future state.

Organizational change often includes changes to tasks, structure, people, and culture, and may necessitate changes to the organization's members' attitudes, beliefs, and behavior. There are two dimensions that can be used to describe organizational change: stimulus for change and scope of change.

The stimulus for organizational change has been described as internally or externally motivated. Internally motivated change, often referred to as planned change or organizational development, emphasizes managerial choice and refers to activities and processes designed to change individuals, groups, organization structure, and processes. Externally motivated change concerns modification of an organization or its parts to fit or to be adjusted with its environment. Externally motivated large scale organizational changes are referred to as "strategic change."⁶

Scope of change refers to the breadth of change. Breadth of a change can be described in terms of organizational reach, for example whether the impact of the change will be contained within one functional unit, organizational unit or cut across organizational boundaries. Change initiatives that have broad scope typically involve a long time horizon whereas those with narrow scope can be accomplished in a shorter amount of time.

BPR: Managing Change

"Business process reengineering is about adapting operations to the demands of a changed environment . . . for defensive or offensive purposes."⁷

Just as the stimulus for organizational change can be characterized as planned or strategic, our discussions with managers and colleagues and review of the business process reengineering literature suggest that business process reengineering can be internally or externally motivated. Our field work to-date suggests that there is often an external event or a new condition, e.g., declining profits or market share, that shocks organizational members and helps them to mobilize the transformation and accomplish 'out of box thinking.'

In terms of scope, business process reengineering, by definition, spans intra- and often inter-organizational boundaries, as managers acknowledge that functional management, and incremental functional improvement are no longer sufficient. Further, many suggest that the time horizon for BPR is long although some organizations have been able to deliver short term cost savings or quality improvements to their organizations by first attacking those opportunities that will produce quick results, the "low hanging fruit." Many managers and BPR consultants distinguish between process improvements or quality programs which result in incremental improvements and process innovations or BPR which result in radical change but take a long time.

Prescriptions for managing change are typically based on *evolutionary* change theories, which argue for gradual or incremental change, or *revolutionary* change theories, which propose radical,

⁶Tichy, N., *Managing Strategic Change*, 1983, NY: John Wiley & Sons.

⁷Hammer, M., "Institutionalizing Change and Other Oxymoron," Notes from Hammer + Clinic 92, November 1992.

discontinuous change.⁸ A comparison of the tactics from the evolutionary and revolutionary change models suggest some similarities and major differences. For example, both approaches argue that the top management team are the only instigators strong enough to mount successful organizational-wide change. However, significant differences in tactics also exist. Further, the evolutionary models promote the participation of the process owners in the redesign. The revolutionary models, on the other hand, foster bringing in a new management team.

In **Table A**, six areas have been highlighted where the revolutionary and evolutionary models appear to provide differing prescriptions: employee involvement, management of the change process, communication of the BPR project to the rest of the organization, the communicated need for BPR within the organization, the nature of milestones, and the need to change the current root structure of the organization. The authors' research in process seeks to determine when the various change tactics can be employed to enable successful BPR.

Table A - Change Tactics

	Evolutionary Change Tactics	Revolutionary Change Tactics
Employee involvement	Use current managers and employees	Bring in a new management team
Management of the change process	Use insiders	Use outsiders
Communication	Broadly communicated plans	Isolate the reengineering team
Need for BPR	Self improvement	Crisis or failure
Milestones	Flexible	Firm milestones
Need to change current structure	Highly adaptive to needs of organization	Need to change root structure of the organization

In summary, BPR is seen as a process intervention that might be triggered by internal conditions or can be stimulated from the external environment. Although organizational change can range in scope from functional to inter-organizational, BPR by definition refers to a change that is at least cross-functional if not organizational in scope.

BPR Paradoxes

Change management is BPR's Achilles heel. The motivators for radical process redesign are often the greatest barriers to the implementation of those changes. In other words, the advantages of BPR are often the greatest threats to its success. The consulting firm, Deloitte and Touche, identified some paradoxes for BPR which we have expanded based on conversations with consultants and managers involved in BPR.

- The biggest potential for BPR is in large organizations, but the environment of large firms is usually the least conducive to innovations.

⁸See for example, Gersick, C., "Revolutionary Change Theories: A Multilevel Exploration of the Punctuated Equilibrium Paradigm," *Academy of Management Review*, 16, 1 (1991), p. 10-36.

- The biggest payoff of BPR comes with cross-functional scope, but an effort that crosses functional boundaries is most likely to be stymied by functional managers defending parochial interests.
- BPR attempts to change many things at one time - work processes, skills, roles, organizational structures, corporate values, and management systems - but simultaneous change leads to organizational confusion and identity crises.
- Employees participation is intended to increase their commitment, but may instead produce alienation as employees begin to understand the impact of change.
- The owners of business processes are asked to lead the “downsizing” efforts, but the prevailing compensation schemes based on head count and the size of their total budget flies in the face of the effort.
- BPR tends to encourage projects with large scope, but large projects are most likely to be left undone because of U.S. firms’ common drive for short-term results.
- BPR assumes breaking the rules, but in bureaucratic settings rules need to be applied to the exercise of breaking the rules.
- Automation is viewed as the catalyst for a new order, but usually serves to cement the old process instead.

To be successful, a BPR project must explicitly address and manage these paradoxes.

Conclusion

The radical redesign of business processes is viewed by many as a critical success factor for organizational well being in the 1990s. As more organizations undertake or expand their BPR programs, it is imperative that we understand the change processes that enable organizational members to re-conceptualize their work, accept the needed changes, and to modify their behavior to obtain the expected benefits of BPR. BPR initiatives offer the potential to significantly improve cost, time, and quality. Redesigning processes and implementing the changes associated with those new processes will test the capabilities of the organization and represent an opportunity that senior executives must closely manage.

IT-enabled BPR promises to deliver significant organizational transformations in structures, processes, values, and systems. The failure to orchestrate the appropriate change process will, however, prevent the potential organizational improvement. As more organizations undertake BPR projects or expand their programs throughout their organizations, it is imperative to understand the change processes that facilitate the organizational members to re-conceptualize their work, to accept the needed changes, and to modify their behavior to obtain the benefits.