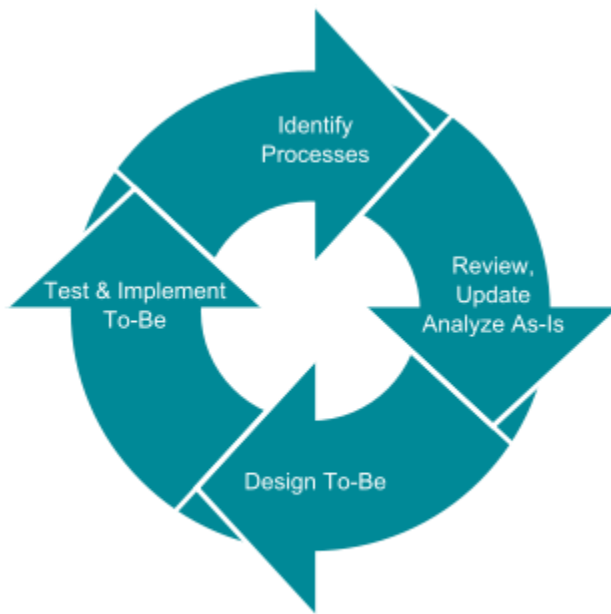


Business process reengineering



Business Process Reengineering Cycle



Business Process Reengineering Cycle.

the analysis and design of workflows and processes within and between an organization. A business process is a set of logically related tasks performed to achieve a defined business outcome Re-engineering is the basis for many recent developments in management. The cross-functional team, for example, has become popular because of the desire to re-engineer separate functional tasks into complete cross-functional processes. Also, many recent management information systems developments aim to integrate a wide number of business functions. Enterprise resource planning, supply chain management, knowledge management systems, groupware and collaborative systems, Human Resource Management Systems and customer relationship management systems all owe a debt to re-engineering theory.

Business Process Reengineering is also known as Business Process Redesign, Business Transformation, or Business Process Change Management.

Overview

Business process reengineering (BPR) began as a private sector technique to help organizations fundamentally rethink how they do their work in order to dramatically improve customer service, cut operational costs, and become world-class competitors. A key stimulus for reengineering has been the continuing development and deployment of sophisticated information systems and networks. Leading organizations are becoming bolder in using this technology to support innovative business processes, rather than refining current ways of doing work.^[1]



Reengineering guidance and relationship of Mission and Work Processes to Information Technology.

Business process reengineering is one approach for redesigning the way work is done to better support the organization's mission and reduce costs. Reengineering starts with a high-level assessment of the organization's mission, strategic goals, and customer needs. Basic questions are asked, such as "Does our mission need to be redefined? Are our strategic goals aligned with our mission? Who are our customers?" An organization may find that it is operating on questionable assumptions, particularly in terms of the wants and needs of its customers. Only after the organization rethinks what it should be doing, does it go on to decide how best to do it.^[1]

Within the framework of this basic assessment of mission and goals, reengineering focuses on the organization's business processes—the steps and procedures that govern how resources are used to create products and services that meet the needs of particular customers or markets. As a structured ordering of work steps across time and place, a business process can be decomposed into specific activities, measured, modeled, and improved. It can also be completely redesigned or eliminated altogether. Reengineering identifies, analyzes, and redesigns an organization's core business processes with the aim of achieving dramatic improvements in critical performance measures, such as cost, quality, service, and speed.^[1]

Reengineering recognizes that an organization's business processes are usually fragmented into subprocesses and tasks that are carried out by several specialized functional areas within the organization. Often, no one is responsible for the overall performance of the entire process. Reengineering maintains that optimizing the performance of subprocesses can result in some benefits, but cannot yield dramatic improvements if the process itself is fundamentally inefficient and outmoded. For that reason, reengineering focuses on redesigning the process as a whole in order to achieve the greatest possible benefits to the organization and their customers. This drive for realizing dramatic improvements by fundamentally rethinking how the organization's work should be done distinguishes reengineering from process improvement efforts that focus on functional or incremental improvement.^[1]

History

In 1990, Michael Hammer, a former professor of computer science at the Massachusetts Institute of Technology (MIT), published an article in the Harvard Business Review, in which he claimed that the major challenge for managers is to obliterate non-value adding work, rather than using technology for automating it.^[2] This statement implicitly accused managers of having focused on the wrong issues, namely that technology in general, and more specifically information technology, has been used primarily for automating existing processes rather than using it as an enabler for making non-value adding work obsolete.

Hammer's claim was simple: Most of the work being done does not add any value for customers, and this work should be removed, not accelerated through automation. Instead, companies should reconsider their processes in order to maximize customer value, while minimizing the consumption of resources required for delivering their product or service. A similar idea was advocated by Thomas H. Davenport and J. Short in 1990^[3], at that time a member of the Ernst & Young research center, in a paper published in the Sloan Management Review the same year as Hammer published his paper.

This idea, to unbiasedly review a company's business processes, was rapidly adopted by a huge number of firms, which were striving for renewed competitiveness, which they had lost due to the market entrance of foreign competitors, their inability to satisfy customer needs, and their insufficient cost structure. Even well established management thinkers, such as Peter Drucker and Tom Peters, were accepting and advocating BPR as a new tool for (re-)achieving success in a dynamic world. During the following years, a fast growing number of publications, books as well as journal articles, were dedicated to BPR, and many consulting firms embarked on this trend and developed BPR methods. However, the critics were fast to claim that BPR was a way to dehumanize the work place, increase managerial control, and to justify downsizing, i.e. major reductions of the work force^[4], and a rebirth of Taylorism under a different label.

Despite this critique, reengineering was adopted at an accelerating pace and by 1993, as many as 65% of the Fortune 500 companies claimed to either have initiated reengineering efforts, or to have plans to do so. This trend was fueled by the fast adoption of BPR by the consulting industry, but also by the study *Made in America*, conducted by MIT, that showed how companies in many US industries had lagged behind their foreign counterparts in terms of competitiveness, time-to-market and productivity.

Development after 1995

With the publication of critiques in 1995 and 1996 by some of the early BPR proponents, coupled with abuses and misuses of the concept by others, the reengineering fervor in the U.S. began to wane. Since then, considering business processes as a starting point for business analysis and redesign has become a widely accepted approach and is a standard part of the change methodology portfolio, but is typically performed in a less radical way as originally proposed.

More recently, the concept of Business Process Management (BPM) has gained major attention in the corporate world and can be considered as a successor to the BPR wave of the 1990s, as it is evenly driven by a striving for process efficiency supported by information technology. Equivalently to the critique brought forward against BPR, BPM is now accused of focusing on technology and disregarding the people aspects of change.

Business process reengineering topics

Definition

Different definitions can be found. This section contains the definition provided in notable publications in the field:

- "... 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."^[5]
- "encompasses the envisioning of new work strategies, the actual process design activity, and the implementation of the change in all its complex technological, human, and organizational dimensions."^[6]

Additionally, Davenport (ibid.) points out the major difference between BPR and other approaches to organization development (OD), especially the continuous improvement or TQM movement, when he states: "Today firms must seek not fractional, but multiplicative levels of improvement – 10x rather than 10%." Finally, Johansson^[7] provide a description of BPR relative to other process-oriented views, such as Total Quality Management (TQM) and Just-in-time (JIT), and state:

- "Business Process Reengineering, although a close relative, seeks radical rather than merely continuous improvement. It escalates the efforts of JIT and TQM to make process orientation a strategic tool and a core competence of the organization. BPR concentrates on core business processes, and uses the specific techniques within the JIT and TQM "toolboxes" as enablers, while broadening the process vision."

In order to achieve the major improvements BPR is seeking for, the change of structural organizational variables, and other ways of managing and performing work is often considered as being insufficient. For being able to reap the achievable benefits fully, the use of information technology (IT) is conceived as a major contributing factor. While IT traditionally has been used for supporting the existing business functions, i.e. it was used for increasing organizational efficiency, it now plays a role as enabler of new organizational forms, and patterns of collaboration within and between organizations.

BPR derives its existence from different disciplines, and four major areas can be identified as being subjected to change in BPR - organization, technology, strategy, and people - where a process view is used as common framework for considering these dimensions. The approach can be graphically depicted by a modification of "Leavitt's diamond".^[8]

Business strategy is the primary driver of BPR initiatives and the other dimensions are governed by strategy's encompassing role. The organization dimension reflects the structural elements of the company, such as hierarchical levels, the composition of organizational units, and the distribution of work between them. Technology is concerned with the use of computer systems and other forms of communication technology in the business. In BPR, information technology is generally considered as playing a role as enabler of new forms of organizing and collaborating, rather than supporting existing business functions. The people / human resources dimension deals with aspects such as education, training, motivation and reward systems. The concept of business processes - interrelated activities aiming at creating a value added output to a customer - is the basic underlying idea of BPR. These processes are characterized by a number of attributes: Process ownership, customer focus, value adding, and cross-functionality.

The role of information technology

Information technology (IT) has historically played an important role in the reengineering concept. It is considered by some as a major enabler for new forms of working and collaborating within an organization and across organizational borders.

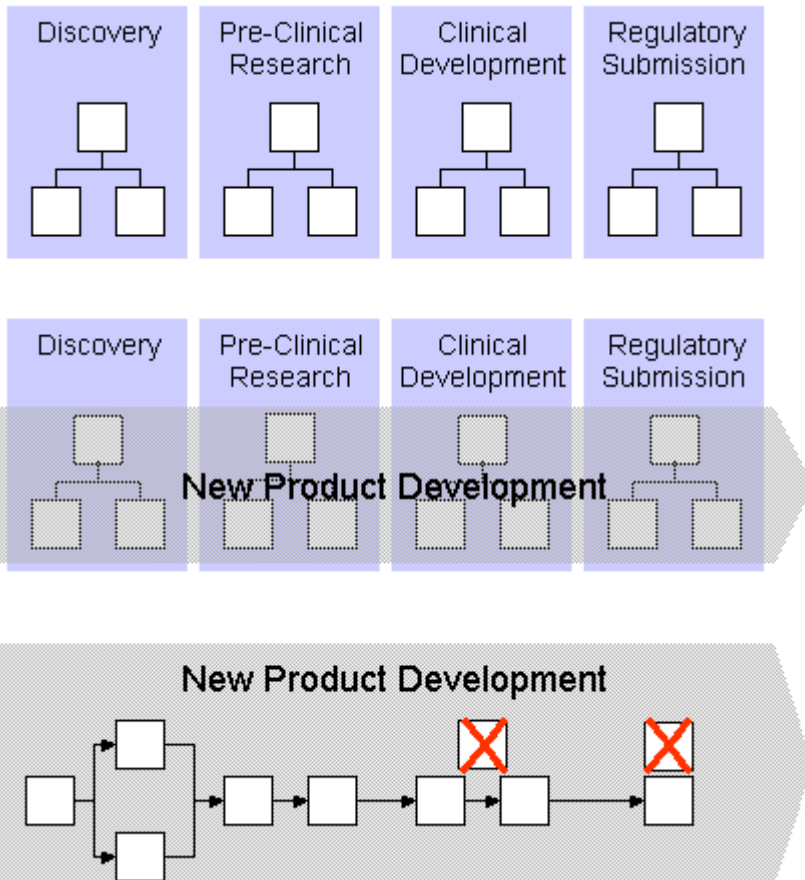
Early BPR literature ^[9] identified several so called *disruptive technologies* that were supposed to challenge traditional wisdom about how work should be performed.

- Shared databases, making information available at many places
- Expert systems, allowing generalists to perform specialist tasks
- Telecommunication networks, allowing organizations to be centralized and decentralized at the same time
- Decision-support tools, allowing decision-making to be a part of everybody's job
- Wireless data communication and portable computers, allowing field personnel to work office independent
- Interactive videodisk, to get in immediate contact with potential buyers
- Automatic identification and tracking, allowing things to tell where they are, instead of requiring to be found
- High performance computing, allowing on-the-fly planning and revisioning

In the mid 1990s, especially workflow management systems were considered as a significant contributor to improved process efficiency. Also ERP (Enterprise Resource Planning) vendors, such as SAP, JD Edwards, Oracle, PeopleSoft, positioned their solutions as vehicles for business process redesign and improvement.

Research & Methodology

Although the labels and steps differ slightly, the early methodologies that were rooted in IT-centric BPR solutions share many of the same basic principles and elements. The following outline is one such model, based on the PRLC (Process Reengineering Life Cycle) approach developed by Guha.^[10]



Simplified schematic outline of using a business process approach, exemplified for pharmaceutical R&D:

1. Structural organization with functional units
2. Introduction of New Product Development as cross-functional process
3. Re-structuring and streamlining activities, removal of non-value adding tasks

Benefiting from lessons learned from the early adopters, some BPR practitioners advocated a change in emphasis to a customer-centric, as opposed to an IT-centric, methodology. One such methodology, that also incorporated a Risk and Impact Assessment to account for the impact that BPR can have on jobs and operations, was described by Lon Roberts (1994). Roberts also stressed the use of change management tools to proactively address resistance to change—a factor linked to the demise of many reengineering initiatives that looked good on the drawing board.

Some items to use on a process analysis checklist are: Reduce handoffs, Centralize data, Reduce delays, Free resources faster, Combine similar activities. Also within the management consulting industry, a significant number of methodological approaches have been developed.^[11]

BPR, if implemented properly, can give huge returns. BPR has helped giants like Procter and Gamble Corporation and General Motors Corporation succeed after financial drawbacks due to competition. It helped American Airlines somewhat get back on track from the bad debt that is currently haunting their business practice. BPR is about the proper method of implementation.

General Motors Corporation

General Motors Corporation implemented a 3-year plan to consolidate their multiple desktop systems into one. It is known internally as "Consistent Office Environment" (Booker, 1994). This reengineering process involved replacing the numerous brands of desktop systems, network operating systems and application development tools into a more manageable number of vendors and technology platforms. According to Donald G. Hedeem, director of desktops and deployment at GM and manager of the upgrade program, he says that the process "lays the foundation for the implementation of a common business communication strategy across General Motors."^[12] Lotus Development Corporation and Hewlett-Packard Development Company, formerly Compaq Computer Corporation, received the single largest non-government sales ever from General Motors Corporation. GM also planned to use Novell NetWare as a security client, Microsoft Office and Hewlett-Packard printers. According to Donald G. Hedeem, this saved GM 10% to 25% on support costs, 3% to 5% on hardware, 40% to 60% on software licensing fees, and increased efficiency by overcoming incompatibility issues by using just one platform across the entire company.

DELL Incorporated

Michael Dell is the founder and CEO of DELL Incorporated, which has been in business since 1983 and has been the world's fastest growing major PC Company. Michael Dell's idea of a successful business is to keep the smallest inventory possible by having a direct link with the manufacturer. When a customer places an order, the custom parts requested by the customer are automatically sent to the manufacturer for shipment. This reduces the cost for inventory tracking and massive warehouse maintenance. Dell's website is noted for bringing in nearly "\$10 million each day in sales." (Smith, 1999). Michael Dell mentions:

"If you have a good strategy with sound economics, the real challenge is to get people excited about what you're doing. A lot of businesses get off track because they don't communicate an excitement about being part of a winning team that can achieve big goals. If a company can't motivate its people and it doesn't have a clear compass, it will drift." ^[13]

Dell's stocks have been ranked as the top stock for the decade of the 1990s, when it had a return of 57,282% (Knestout and Ramage, 1999). Michael Dell is now concentrating more on customer service than selling computers since the PC market price has pretty much equalized. Michael Dell notes:

"The new frontier in our industry is service, which is a much greater differentiator when price has been equalized. In our industry, there's been a pretty huge gap between what customers want in service and what they can get, so they've come to expect mediocre service. We may be the best in this area, but we can still improve quite a bit—in the quality of the product, the availability of parts, service and delivery time." ^[13]

Michael Dell understands the concept of BPR and really recognizes where and when to reengineer his business.

Ford Motor Company

Ford reengineered their business and manufacturing process from just manufacturing cars to manufacturing quality cars, where the number one goal is quality. This helped Ford save millions on recalls and warranty repairs. Ford has accomplished this goal by incorporating barcodes on all their parts and scanners to scan for any missing parts in a completed car coming off of the assembly line. This helped them guarantee a safe and quality car. They have also implemented Voice-over-IP (VoIP) to reduce the cost of having meetings between the branches.

P&G Corporation : A multi-billion dollar corporation like Procter and Gamble Corporation, which carries 300 brands and growing really has a strong grasp in re-engineering. Procter and Gamble Corporation's chief technology officer, G. Gil Cloyd, explains how a company which carries multiple brands has to contend with the "classic innovator's dilemma — most innovations fail, but companies that don't innovate die. His solution, innovating innovation..." (Teresko, 2004). Cloyd has helped a company like Procter and Gamble grow to \$5.1 billion by the fiscal year of 2004. According to Cloyd's scorecard, he was able to raise the volume by 17%, the organic volume by 10%, sales are at \$51.4 billion up by 19%, with organic sales up 8%, earnings are at \$6.5 billion up 25% and share earnings up 25%. Procter and Gamble also has a free cash flow of \$7.3 billion or 113% of earnings, dividends up 13% annually with a total shareholder return of 24%. Cloyd states: "The challenge we face is the competitive need for a very rapid pace of

innovation. In the consumer products world, we estimate that the required pace of innovation has double in the last three years. Digital technology is very important in helping us to learn faster." ^[14] G. Gil Cloyd also predicts, in the near future, "as much as 90% of P&G's R&D will be done in a virtual world with the remainder being physical validation of results and options." ^[15]

Critique

Reengineering has earned a bad reputation because such projects have often resulted in massive layoffs. This reputation is not altogether unwarranted, since companies have often downsized under the banner of reengineering. Further, reengineering has not always lived up to its expectations. The main reasons seem to be that:

- Reengineering assumes that the factor that limits an organization's performance is the ineffectiveness of its processes (which may or may not be true) and offers no means of validating that assumption.
- Reengineering assumes the need to start the process of performance improvement with a "clean slate," i.e. totally disregard the *status quo*.
- According to Eliyahu M. Goldratt (and his Theory of Constraints) reengineering does not provide an effective way to focus improvement efforts on the organization's constraint.

There was considerable hype surrounding the introduction of *Reengineering the Corporation* (partially due to the fact that the authors of the book reportedly ^[citation needed] bought numbers of copies to promote it to the top of bestseller lists).

Abrahamson (1996) showed that fashionable management terms tend to follow a lifecycle, which for Reengineering peaked between 1993 and 1996 (Ponzi and Koenig 2002). They argue that Reengineering was in fact nothing new (as e.g. when Henry Ford implemented the assembly line in 1908, he was in fact reengineering, radically changing the way of thinking in an organization). Dubois (2002) highlights the value of signaling terms as Reengineering, giving it a name, and stimulating it. At the same there can be a danger in usage of such fashionable concepts as mere ammunition to implement particular reform. Read Article by Faraz Rafique. The most frequent and harsh critique against BPR concerns the strict focus on efficiency and technology and the disregard of people in the organization that is subjected to a reengineering initiative. Very often, the label BPR was used for major workforce reductions. Thomas Davenport, an early BPR proponent, stated that:

"When I wrote about "business process redesign" in 1990, I explicitly said that using it for cost reduction alone was not a sensible goal. And consultants Michael Hammer and James Champy, the two names most closely associated with reengineering, have insisted all along that layoffs shouldn't be the point. But the fact is, once out of the bottle, the reengineering genie quickly turned ugly." ^[16]

Michael Hammer similarly admitted that:

"I wasn't smart enough about that. I was reflecting my engineering background and was insufficient appreciative of the human dimension. I've learned that's critical." ^[17]

Other criticism brought forward against the BPR concept include

- It never changed management thinking, actually the largest causes of failure in an organization
- lack of management support for the initiative and thus poor acceptance in the organization.
- exaggerated expectations regarding the potential benefits from a BPR initiative and consequently failure to achieve the expected results.
- underestimation of the resistance to change within the organization.
- implementation of generic so-called best-practice processes that do not fit specific company needs.
- overtrust in technology solutions.
- performing BPR as a one-off project with limited strategy alignment and long-term perspective.
- poor project management.

See also

- [Business Process Management](#)
- [Business Process Improvement](#)
- [Business Process Modeling Notation \(BPMN\)](#)
- [Kaizen](#)
- [Process improvement](#)
- [Workflow](#)

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1. [^] ^a ^b ^c ^d [Business Process Reengineering Assessment Guide](#), United States General Accounting Office, May 1997.
2. [^] (Hammer 1990)
3. [^] (Thomas H. Davenport and J. Short, 1990)
4. [^] (Greenbaum 1995, Industry Week 1994)
5. [^] Hammer and Champy (1993)
6. [^] [Thomas H. Davenport](#) (1993)
7. [^] [Johansson *et al.*](#) (1993)
8. [^] [Leavitt](#) 1965).
9. [^] e.g. Hammer & Champy (1993),
10. [^] Guha et al. (1993)

11. ^ A set of short papers, outlining and comparing some of them can be found here, followed by some guidelines for companies considering to contract a consultancy for a BPR initiative:
 - Overview
 - Andersen Consulting (now Accenture)
 - Bain & Co.
 - Boston Consulting Group
 - McKinsey & Co.
 - Comparison
 - Guidelines for BPR consulting clients
12. ^ (Booker, 1994).
13. ^ a b (Smith, 1999)
14. ^ (Teresko, 2004)
15. ^ (Teresko, 2004).
16. ^ (Davenport, 1995)
17. ^ (White, 1996)

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External links

- [BPR Articles](#)
- [Hammering Hammer](#) (A Critical Analysis of Michael Hammer's Process Enterprise approach.)
- [BPR : Decision engineering in a strained industrial and business environment](#)

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