

BUSINESS ENGINEERING AND BUSINESS PROCESS REENGINEERING

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Business Engineering is an interdisciplinary field of engineering that focuses on how complex businesses should be designed and managed.

Business engineering circumscribes the domain of designing new business fields. Unlike business development, business engineering does not only include marketing related tasks, but also most of the other business administration tasks. Financial and operational tasks are of equal importance, for example.

Business engineering includes all activities that are necessary to develop and maintain an independent line of business. It is comparable with starting a business, but includes the novel component. That means that there is no core market yet and market opportunities need to be created. Most likely, the output of business engineering substitutes known forms of supply, in existing markets.

Therefore business engineering aims to establish new, future oriented forms of businesses but with reference to existing or emerging needs. Business engineering is most likely related with the area of future technology. To abstract it, business engineering combines the establishment of a completely new business in a prospect business environment[1].

Business Process Modeling (BPM) in systems engineering is the activity of representing processes of an enterprise, so that the current process may be analyzed and improved. BPM is typically performed by business analysts and managers who are seeking to improve process efficiency and quality. The process improvements identified by BPM may or may not require Information Technology involvement, although that is a common driver for the need to model a business process, by creating a process master.

Change management programs are typically involved to put the improved business processes into practice. With advances in technology from large platform vendors, the vision of BPM models becoming fully executable (and capable of simulations and round-trip engineering) is coming closer to reality every day.

Business model. A business model is a framework for creating economic, social, and/or other forms of

value. The term 'business model' is thus used for a broad range of informal and formal descriptions to represent core aspects of a business, including purpose, offerings, strategies, infrastructure, organizational structures, trading practices, and operational processes and policies.

In the most basic sense, a business model is the method of doing business by which a company can sustain itself. That is, generate revenue. The business model spells-out how a company makes money by specifying where it is positioned in the value chain.

Business process. A business process is a collection of related, structured activities or tasks that produce a specific service or product for a particular customer or customers. There are three main types of business processes:

- Management processes, the processes that govern the operation of a system. Typical management processes include «Corporate Governance» and «Strategic Management».
- Operational processes, processes that constitute the core business and create the primary value stream. Typical operational processes are Purchasing, Manufacturing, Marketing, and Sales.
- Supporting processes, which support the core processes. Examples include Accounting, Recruitment, Technical support.

A business process can be decomposed into several sub-processes, which have their own attributes, but also contribute to achieving the goal of the super-process. The analysis of business processes typically includes the mapping of processes and sub-processes down to activity level. A business process model is a model of one or more business processes, and defines the ways in which operations are carried out to accomplish the intended objectives of an organization. Such a model remains an abstraction and depends on the intended use of the model. It can describe the workflow or the integration between business processes. It can be constructed in multiple levels.

A workflow is a depiction of a sequence of operations, declared as work of a person, work of a simple or complex mechanism, work of a group

of persons[2]. work of an organization of staff, or machines. Workflow may be seen as any abstraction of real work, segregated in work share, work split or whatever types of ordering. For control purposes, workflow may be a view on real work under a chosen aspect.

Business process reengineering. Business process re-engineering is the analysis and design of workflows and processes within an organization. According to Davenport (1990) 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.

Business process re-engineering is also known as business process redesign, business transformation, or business process change management.

Business process re-engineering (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 re-engineering 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[3].

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

Business Process Re-engineering (BPR) is basically the fundamental re-thinking and radical redesign, made to an organization's existing resources. It is more than just business improvising.

It is an 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.

Re-engineering recognizes that an organization's business processes are usually fragmented into sub processes 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. Re-engineering maintains that optimizing the performance of sub processes can result in some benefits, but cannot yield dramatic improvements if the process itself is fundamentally inefficient and outmoded. For that reason, re-engineering focuses on re-designing 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 re-thinking how the organization's work should be done distinguishes re-engineering from process improvement efforts that focus on functional or incremental improvement. (Fig.1).

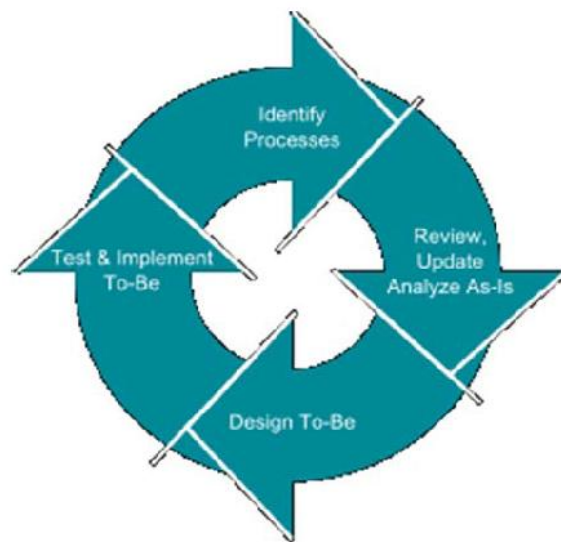


Fig.1. Business Process Re-engineering Cycle

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[4]. 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.(Fig.2).



Fig.2. Reengineering guidance and relationship of Mission and Work Processes to Information Technology

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, at that time a member of the Ernst & Young research center, in a paper published in the Sloan Management Review.

This idea, to unbiased 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, 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.

The role of information technology. Information technology (IT) has historically played an important role in the reengineering concept[5]. 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 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 and 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.

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) [citation needed]. 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.

Simplified schematic outline of using a business process approach. 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 re-engineering. 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.

References:

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რეზიუმე:

ნაშრომში მოცემულია დიზაინი ბიზნეს ინჟინერინგის. ბიზნეს ინჟინერინგი არის უნიკალური მართვა ტექნოლოგიით, რომელიც ეფუძნება პრაქტიკულ მეცნიერებას და აწარმოებს გაზომვად შედეგებს მთელი თქვენი ბიზნესის მასშტაბით.

ნაჩვენებია ბიზნეს პროცესების რეინჟინერინგი, რომელიც ცნობილია როგორც ბიზნეს პროცესების რედიზაინი, ბიზნესის ტრანსფორმაცია, ან ბიზნეს პროცესების ცვლილების მართვა.

SUMMARY

The paper is given design business engineering. Business engineering is a unique management technology or style which is based on practical science and produces measurable results across your entire business.

Is shown business process reengineering, which is known as business process redesign, business transformation, or business process change management.