Organization & Markets

Advantages and Disadvantages of Business Process Reengineering

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"If you have ever waited in line at the grocery store, you can appreciate the need for process improvement. In this case, the "process" is called the check-out process, and the purpose of the process is to pay for and bag your groceries. The process begins with you stepping into line, and ends with you receiving your receipt and leaving the store. You are the customer (you have the money and you have come to buy food), and the store is the supplier.

The **process** steps are the activities that you and the store personnel do to complete the transaction. In this simple example, we have described a business process. Imagine other business processes: ordering clothes from mail order companies, requesting new telephone service from your telephone company, developing new products, administering the social security process, building a new home, etc.

Business processes are simply a set of activities that transform a set of inputs into a set of outputs (goods or services) for another person or process using people and tools. We all do them, and at one time or another play the role of customer or supplier.

You may see business processes pictured as a set of triangles as shown below. The purpose of this model is to define the supplier and process inputs, your process, and the customer and associated outputs. Also shown is the feedback loop from customers." [1] [Six Sigma Software, BPR Online Learning Center]

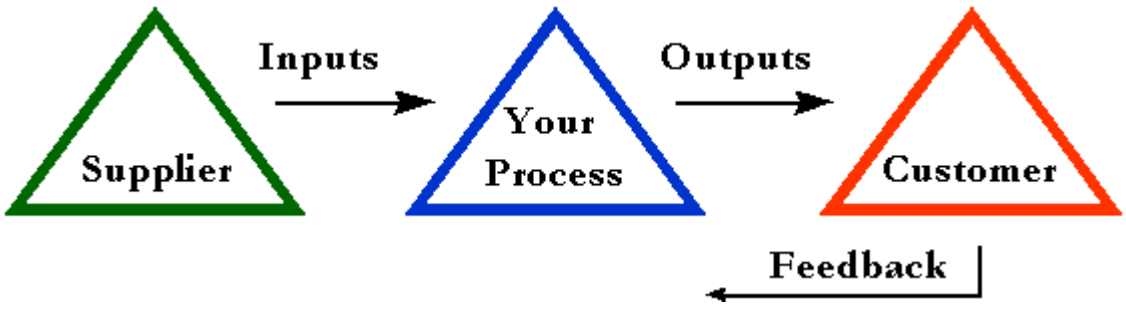

Figure 1.1: Business Process Model
[Six Sigma Software, BPR Online Learning Center]

2. Business Process Improvement

"Improving business processes is paramount for businesses to stay competitive in today's marketplace. Over the last 10 to 15 years companies have been forced to improve their business processes because we, as customers, are demanding better and better products and services. And if we do not receive what we want from one supplier, we have many others to choose from (hence the competitive issue for businesses). Many companies began business process improvement with a **continuous improvement model**. This model attempts to understand and measure the current process, and make performance improvements accordingly.

The figure below illustrates the basic steps. You begin by documenting what you do today, establish some way to measure the process based on what the customers want, do the process, measure the results, and then identify improvement opportunities based on the data you collected. You then implement process improvements, and measure the performance of the new process. This loop repeats over and over again, and is called **continuous process improvement**. You might also hear it called **business process improvement**, **functional process improvement**, etc." [2] [Six Sigma Software, BPR Online Learning Center]

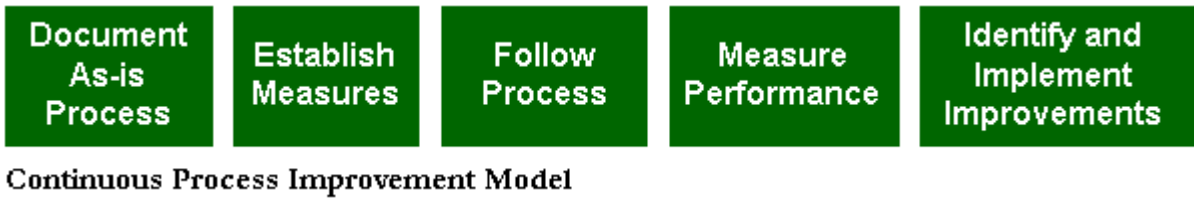

Figure 2.1: Continous Process Improvement Model
[Six Sigma Software, BPR Online Learning Center]

"This method for improving business processes is effective to obtain gradual, incremental improvement. However, over the last 10 years several factors have accelerated the need to improve business processes. The most obvious is technology. New technologies (like the Internet) are rapidly bringing new capabilities to businesses, thereby raising the competitive bar and the need to improve business processes dramatically.

Another apparent trend is the opening of world markets and increased free trade. Such changes bring more companies into the marketplace, and competing becomes harder and harder. In today's marketplace, major changes are required to just stay even. It has become a matter of survival for most companies.

As a result, companies have sought out methods for faster business process improvement. Moreover, companies want breakthrough performance changes, not just incremental changes, and they want it now. Because the rate of change has increased for everyone, few businesses can afford a slow change process. One approach for rapid change and dramatic improvement that has emerged is **Business Process Reengineering (BPR)**." [3] [Six Sigma Software, BPR Online Learning Center]

3. Business Process Reengineering

"BPR relies on a different school of thought than continuous process improvement. In the extreme, reengineering assumes the current process is irrelevant - it doesn't work, it's broke, forget it. Start over. Such a clean slate perspective enables the designers of business processes to disassociate themselves from today's process, and focus on a new process. In a manner of speaking, it is like projecting yourself into the future and asking yourself: *What should the process look like?, What do my customers want it to look like?, What do other employees want it to look like?, How do best-in-class companies do it?*, *What might we be able to do with new technology?*

Such an approach is pictured below. It begins with defining the scope and objectives of your reengineering project, then going through a learning process (with your customers, your employees, your competitors and non-competitors, and with new technology). Given this knowledge base, you can create a vision for the future and design new business processes. Given the definition of the "to be" state, you can then create a plan of action based on the gap between your current processes, technologies and structures, and where you want to go. It is then a matter of implementing your solution." [4] [Six Sigma Software, BPR Online Learning Center]

Figure 3.1: Business Process Reengineering Model
[Six Sigma Software, BPR Online Learning Center]

"In summary, the extreme contrast between **continuous process improvement** and **business process reengineering** lies in where you start (with today's process, or with a clean slate), and with the magnitude and rate of resulting changes.

Over time many derivatives of radical, breakthrough improvement and continuous improvement have emerged that attempt to address the difficulties of implementing major change in corporations. It is difficult to find a single approach exactly matched to a particular company's needs, and the challenge is to know what method to use

when, and how to pull it off successfully such that bottom-line business results are achieved." [5] [Six Sigma Software, BPR Online Learning Center]

3.1 Business Process Reengineering Formally Defined

Hammer and Champy have revolutionized the idea of reengineering. They define BPR as, “the **fundamental** rethinking and **radical** redesign of business systems to achieve **dramatic** improvements in critical, contemporary measures of performance, such as cost, quality, service, and speed.” [6] [Hammer, Champy, 2001]

In this defenition you can find four important key words:

- **fundamental**: "Why do we do what we do?" and "Why do we do it the way we do?" Reengineering ignores what *is* and concetrates on what *should be*.
- **radical**: Desregarding all existing structures and procedures and inventing completely new ways of accomplishing work
- **dramatic**: Used for quantum leaps in performance, not used for small jumps
- **process**: the most important key word, Collection of activities taking multiple inputs to create an output that is of value to the customer

In the following paragraph three kinds of companies are listed which undertake reengineering:

a) Companies which are already in deep trouble
   If the company cost's are higher than competitors, if the customer service is really bad and the customers are already against it, if the product failure is much higher as the competition's

b) Companies which are not in trouble yet
   If the finacial situation is still good but problems might appear in the future such as new competitors, changing customer requirements and an altered econommic environment

c) Companies which are in a peal condition
   The company is in a healthy condition and not even in the future problems might appear. But the management of such companies are ambitious and

aggressive. This companies want to improve their own level in order to stay in lead over their competitors.

But companies do not reengineer themself. The people do it. It is very important for every company that it selects the right people who can do this changing process thus it will lead to success.
The following roles are mostly involved by implementing reengineering at a company:

- **Leader**: a senior executive who authorizes and motivates the overall reengineering effort
- **Process owner**: a manager with responsibility for a specific process and the reengineering effort focused on it
- **Reengineering team**: a group of individuals dedicated to the reengineering of a parrticular process, who diagnose the existing process and oversee its redesign and implementation
- **Steering committee**: a policy-making body of a senior manager who develop the organization's overall reengineering strategy and monitor its progress
- **Reengineering czar**: an individual responsible for developing reengineering techniques and tools within the company and for achieving synergy across the company's separate reengineering projects

The relationsship between the roles is like this:

"The leader appoints the process owner, who convenes a reengineering team to reengineer the process, with the assistance from the czar and under the auspices of the steering committee." [7] [Hammer, Champy, 2001]

3.2 Rethinking the Business Process

In contrast to BPR the traditional industrial model rests on the basics premise that workers have only few skills and little time to improve their own practical skills. Therefore the jobs which are done by this workers have to be very simple. Some theories also say that the work can only be done efficient as long as the task can be easily understood by the workers. For that reason the process itself has to be very

complex thus all the simple tasks can combined together. BPR is just doing the opposite. In this method the process has to be kept simple thus the contemporary demands of quality, service, flexibility, and low cost processes can be reached.

3.2.1 Combination of Jobs

"The most basic common feature of reengineered processes is the absence of an assembly line; many formerly distinct jobs or tasks are integrated and compressed into one." [8] [Hammer, Champy, 2001]This combination of jobs is applied in many several companies. For example, an electronic company where a worker is doing the whole order fulfillment process starting from the selling to the installation of the companies equipment.
In former times this process has been done by several workers. This has caused a lot of problems because many handoffs, errors and misunderstandings were inevitable.
"In reengineering this process, the company compressed responsibility for the various steps and assigned it to one person. This person now performs the whole process and also serves as the single point of contact for the customer." [9] [Hammer, Champy, 2001] Hammer and Champy call such an employee a "Case Worker".

Of course all steps of a process cannot be always combined into one job and thereby into one person. Sometimes, various steps of a process has to be done at different locations. For that reason the expression "Case Team" has been introduced which means that "a group of people who have among them all the skills that are needed to handle an installation order.

The benefit by using "Case Workers" and / or "Case Teams" can be enormous. The handoffs which cause errors, delays and rework can be eliminated by such a process. "Typically, a case worker-based process operates ten times faster than the assembly line version that it replaces." [10] [Hammer, Champy, 2001] "Integrated Processes have also reduced process administration overheads. Because employees involved in the process assume responsibility for making sure that customers' requirements are met on time and with no defects..." [11] [Hammer, Champy, 2001] Additional benefits of an integrated process are improved control and

the encouragement of finding innovations and creative ways for saving time and costs.

3.2.2 Responsibility for the Workers

"Companies that undertake reengineering not only compress processes horizontally, by having case workers or case teams perform multiple, sequential tasks, but vertically as well. Vertical compression means that at the points in a process where workers used to have to go up the managerial hierachy for an answer, they now make their own decisions. Instead of being separated from real work, decision making becomes part of the work. Workers themselves now do that work portion of a job that was formerly performed by managers." [12] [Hammer, Champy, 2001]
A very widespread assumption is that the workers don´t have the time, the skills and the necessary knowledge to monitor and control their work. But this assumption and its consequences need to be discarded.
"The benefits of compressing work vertically as well as horizontally include fewer delays, lower overhead costs, better customer response and greater empowerment for the worker." [13] [Hammer, Champy, 2001]

3.2.3 Delinearizing the Process

"Reengineering processes are freed from the tyranny of straight-line sequence; natural precedence in the work rather than the artificial one introduced by linearity, can be exploited." [14] [Hammer, Champy, 2001]
Usually, a worker 1 who is doing task 1 has to complete his work before worker 2 can start with task 2. This linearity behaviour slows down the work. But how would be the process improved if both task could be performed at the same time?
By using a reengineered process task 2 can already performed by person 2 as soon as the worker has got enough information from person 1. It is not necessary anymore to wait as long as person 1 has completed all its work which traditionally happened before. In this case person 1 has also done tasks which were necessary for the last steps in a process.
"Delinearizing processes speeds them uip in two ways. First, many jobs get done simultaneously. Second, reducing the amount of time that elapses between the early and the late steps of a process narrows the window for major change that might

make the earlier work obsolete or the later work inconsistent with the earlier. Organizations thereby encounter less rework, which is another major source of delay." [15] [Hammer, Champy, 2001]

3.2.4 Multiple Versions of Processes

The fourth common characteristic of BPR is the end of standardization. The traditional process has been implemented to provide mass production for a mass market. "All inputs were handeled identically, so companies could produce uniform and cosistent outputs." [16] [Hammer, Champy, 2001] But this intension is not up to date anymore because of the diverse and rapid changing of the markets. Therefore, multiple versions of the same process are necessary. Each one is tuned to the requirements of different markets, situations, or inputs.

A single process can be replaced by two or maybe three processes: one for the small projects, one for the big projects and one for those in the middle.

"Traditionally one-size-fits-all processes are usually very complex, since they must incorporate special procedures and exceptions to handle a wide range of situations. A multiversion process, by contrast, is clean and simple, because each version needs to handle only the cases for which it is appropriate." [17] [Hammer, Champy, 2001]

3.2.5 Reducing Checks and Controls

Coventional processes are full with checking and control steps within a process which add no value. They are included to ensure that people are not abusing the process. A very good example for this is the purchasing department of a company which checks the signature of the persons who wants to order something if this person is authorized to order the item. This fact is not recocnized by the organization that it causes high costs by having strict controls. Futhermore it also takes a lot of time and labor to do all this checking. Additionally, the costs of the checking sometimes exceed the costs of the goods being purchased.

"Reengineered processes exhibit a more balanced approach. Instead of tightly checking work as it is performed, reengineered processes often have aggregate or deferred controls. These control systems will, by design, tolerate modest and limited abuse, by delaying the point at which abuse is detected or by examining aggregate patterns rather than individual instances. The reengineered control systems,

however, more than compensate for any possible increase in abuse by dramatically lowering the costs and other encumbrances associated with the control itself." [18] [Hammer, Champy, 2001]
To get a more detailed view on reducing checks and controls, an automobile insurance company is considered. The adjusters are taken out of the process for small accidents and the claimants are send straight to an approved car repair shop. Overbilling can be avoided by periodically reviewing the charges of the car repair shops and comparing it to other car repairing shops. If a shop tries to abuse it will get a warning by the insurance company and it might be dropped from the approved list which means that the shop won´t get customers anymore advised by the insurance company.

3.2.6 Additional Requirments

"The cultural values found in some traditional companies are the by-products of fragemented management systems, which focus on past performance, emphasize control, and enshrine the hierachy." [19] [Hammer, Champy, 2001]
This means that also the values in some traditional companies have to be changed. Some statements are:

- My boss pays my salary. For all the talk about serving customers, the real objective is to keep the boss happy
- I am just a cog in the wheel. My best strategy is to keep my head down and not make waves
- The more dircet reports I have, the more important I am. The one with the biggest empire wins.
- Tomorrow will be just like today. It always has been.

After reengineering has been applied in a company the employees should believe in the following statements:

- Customer pay all our salaries. I must do what it takes to please them.
- Every job in this company is essential and important. I do make a difference.
- Showing up is no accomplishment. I get paid for the values I create.
- I belong to a team. We fail or we succeed together.

- Nobody knows what tomorrow holds. Constant learning is part of my job.

such mistakes.

3.3 Advantages of BPR

3.3.1 Satisfaction

A big advantage of reengineering is that the work becomes more satisfying because the workers get a greater sense of completion, closure, and accomplishment from their jobs. As it is described in chapter 3.2.1 the employee performs a whole job, a process or a subprocess, that by definition produces a result that somebody cares about. The workers not only try to keep the boss happy or to work through the bureaucracy. More important is the fact to satisfy the customer needs.

3.3.2 Growth of Knowledge

Furthermore, the personal development within a process team environment does not play such an important role which means climbing up the hierachy is a minor goal. In this case it is much more important to get a widespread knowledge of the whole process and there are no such things as "mastering" a job; as a worker's expertise and experience grow, his or her job grows with it.

3.3.3 Solidarity to the Company

"Moreover, since workers in a reengineered process spend more time on value-adding work and less time on work that adds no value, their contributions to the company increase, and, consequently, jobs in a reengineered environment will on the whole be more highly compensated." [20] [Hammer, Champy, 2001]

3.3.4 Demanding Jobs

"There is, however, a challenging side to all this good news about work in a reengineered environment. If jobs are more satisfying, they are also more challenging and difficult. Much of the old, routined work is eliminated or automated. If the old model was simple tasks for simple people, the new one is complex jobs for smart people, which raises the bar for entry into the workforce. Few simple, routine, unskilled jobs are to be found in a reengineered environment." [21] [Hammer, Champy, 2001]

This fact that the jobs are more demanding can be either an advantage or a disadvantage. It depends on the view from where you consider it. Unskilled employees might get difficulties to get along with the process changings. Some people are just not able to perform several tasks like it is explained in chapter 3.2.1. For such persons it will be probably difficult to survive within this new environment which mostly leads to a personal failure in their job.

3.3.5 Authority

In a traditional oriented company the managment expects from the employees that they follow some specific rules. In contrast to that the reengineered companies "don´t want employees who can follow rules; they want people who will make their own rules. As management invests teams with the responsibility of completing an entrire process, it must also give them the authority to make the decisions needed to get it done." [22] [Hammer, Champy, 2001]

3.4 Risks of Reengineering

Not every company will succeed by applying Business Process Reengineering at their company like it is described in the previous chapters. "They end their efforts precisely where they began, making no significant changes, achieving no major performance improvement, and fueling employee cynicsm with yet another ineffective business improvement program." [23] [Hammer, Champy, 2001]Between 50 % and 70 % of the organizations which have undertaken a reengineering effort do not achieve the dramatic results they have intended.

The comparison of chess and roulette describes the situation of such companies. "Roulette is a high-risk endeavor, chess is not, although a player may lose at chess as frequently as at roulette. Roulette is purely a game of a chance. Once the money is put down, players have no control over the outcome; in chess, chance plays no part in the outcome. The better player can expect to win; loss results from ability and strategy." [24] [Hammer, Champy, 2001]
The same theory can be applied for Business Process Reengineering which means that the sucess always depends on the knowledge and the ability, but not in luck.

3.4.1 Resistance to the change

"There will certainly be some resistance to the change necessary for reengineering, but the key is to expect this resistance and develop ways to confront it. Employees will be most concerned about their job status after a reengineering; they will often show this by promoting opposition to the plan. Employers must confront this and deal with the employees' concerns and not their arguments." [25] [Cartland, Business Administration 542, 1998]

3.4.2 Drawbacks to Business Process Reengineering

"People are not inherently opposed to change... but they don´t like surprises. It is a leader's responsibility to let people know what the issues are."

[Mark Wallace, CEO, Texas Children's Hospital]

"Just understanding how to reengineer does not ensure success. When clearly thought out and implemented properly, BPR can be a very good way to improve the success of a company. Unfortunately, many companies implement BPR as a fad, forgetting completely about the people involved. Companies that wish to use Business Process Reengineering must determine the best strategy and follow through with the objectives. BPR will not be successful if the company flagellates. It will also not be successful if the company uses BPR over and over again. The reengineering process must come from the top down – the executives must be committed and ready to promote the changes as an example for the rest of the company." [26] [Cartland, Business Administration 542, 1998]

3.4.3 Higher Demands to the Workers

Empowering the workers is an inevitable step in a reengineered process. Therefore the companies which hire new workers have to consider additional criterias in their hiring. "It is not longer enough merely to look at prospective employees' education, training, and skills; their character becomes an issue as well. Are they self-starting? Do they have self-discipline? Are they motivated to do what it takes to please the customer?" [27] [Hammer, Champy, 2001]This might be more complicated to find the right people for one specific job. The worker has to be a kind of "Allrounder" which can perform several jobs. As it was enough to convince a possible employer in a job

interview with practical skills, now it is also very important to have the more and more demanded soft skills.

"For multidimensional and changing jobs companies don´t need people to fill a slot, because the slot will be only roughly defined. Companies need people who can figure out what the job takes and do it, who can create the slot that fits them. Moreover, the slot will keep changing. In an environment of flexibility and change, it is clearly impossible to hire people who already know everything they're ever going to need to know, so continuing education over lifetime of a job becomes the norm in a reengineered company." [28] [Hammer, Champy, 2001]

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