BUSINESS PROCESS REENGINEERING: A CONSOLIDATED METHODOLOGY

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Abstract

Business Process Reengineering is a discipline in which extensive research has been carried out and numerous methodologies churned out. But what seems to be lacking is a structured approach. In this paper we provide a review of BPR and present 'best of breed ' methodologies from contemporary literature and introduce a consolidated, systematic approach to the redesign of a business enterprise. The methodology includes the five activities: Prepare for reengineering, Map and Analyze As-Is process, Design To-be process, Implement reengineered process and Improve continuously.

Keywords: Business Process Reengineering, Methodology, Improvement

1.0 Introduction:

In today's ever-changing world, the only thing that doesn't change is 'change' itself. In a world increasingly driven by the three Cs: Customer, Competition and Change, companies are on the lookout for new solutions for their business problems[4]. Recently, some of the more successful business corporations in the world seem to have hit upon an incredible solution: **Business Process Reengineering** (BPR).

Some of the recent headlines in the popular press read, *"Wal-Mart reduces restocking time from six weeks to thirty-six hours.""* Hewlett Packard's assembly time for server computers touches new low- four minutes." *"Taco Bell's sales soars from $500 million to $3 billion*[3]." The reason behind these success stories: Business Process Reengineering!

2.0 What is reengineering?

"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[4]." The key words in the preceding definition are the italicized ones.

BPR advocates that enterprises go back to the basics and reexamine their very roots. It doesn't believe in small improvements. Rather it aims at total reinvention. As for results: BPR is clearly not for companies who want a 10% improvement. It is for the ones that need a ten-fold increase. According to Hammer and Champy [4], the last but the most important of the four key words is the word-'process.' BPR focuses on processes and not on tasks, jobs or people. It endeavors to redesign the strategic and value added processes that transcend organizational boundaries.

3.0 What to reengineer? :

According to many in the BPR field reengineering should focus on processes and not be limited to thinking about the organizations. After all the organization is only as effective as its processes[4,6] So, what is a process? "A business process is a series of steps designed to produce a product or a service. It includes all the activities that deliver particular results for a given customer(external or internal)[9]." Processes are currently invisible and unnamed because people think about the individual departments more often than the process with which all of them are involved. So companies that are currently used to talking in terms of departments such as marketing and manufacturing must switch to giving names to the processes that they do such that they express the beginning and end states. These names should imply all the work that gets done between the start and finish. For example, *order fulfillment* can be called *order to payment process* [4].

Talking about the importance of processes just as companies have organization charts, they should also have what are called *process maps* to give a picture of how work flows through the company. Process mapping provides tools and a proven methodology for identifying your current As-Is business processes and can be

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used to provide a To-Be roadmap for reengineering your product and service business enterprise functions. It is the critical link that your reengineering team can apply to better understand and significantly improve your business processes and bottom-line performance[4,6].

Having identified and mapped the processes, deciding which ones need to be reengineered and in what order is the million-dollar question. No company can take up the unenviable task of reengineering all the processes simultaneously. Generally they make there choices based on three criteria:- *dysfunction*: which processes are functioning the worst?; *importanc*e: which are the most critical and influential in terms of customer satisfaction; *feasibility*: which are the processes that are most likely to be successfully reengineered[4].

4.0 How to reengineer?

With an understanding of the basics of BPR, five methodologies are summarized in Table 1.

Table 1. A few BPR methodologies from contemporary literature

Activity#	Methodology #1 [11]	Methodology #2 [5]
1	Develop vision & strategy	Determine Customer Requirements &Goals for the Process
2	Create desired culture	Map and Measure the Existing Process
3	Integrate & Improve enterprise	Analyze and Modify Existing Process
4	Develop technology solutions	Design a Reengineered Process:
5		Implement the Reengineered Process

Activity#	Methodology#3 [2]	Methodology #4 [9]	Methodology #5 [7]
1	Set Direction	Motivating Reengineering	Preparation
2	Baseline and Benchmark	Justifying Reengineering	Identification
3	Create the Vision	Planning Reengineering	Vision
4	Launch Problem Solving Projects	Setting up for Reengineering	Technical & Social design
5	Design Improvements	As Is Description & Analysis:	Transformation
6	Implement Change	To-Be Design and Validation	
7	Embed Continuous Improvement	Implementation	

4.1 Consolidated Methodology:

A consolidated methodology has been developed from the five methodologies previously presented and an IDEF0 model was developed to provide a structured approach and to facilitate understanding. But for the sake of brevity, we have shown only the major activities in the IDEF0 model in Figure 1. In the ensuing section, we deal with the details of our methodology.

4.1.1 Activity #1: Prepare for Reengineering:

"If you fail to plan, you plan to fail". Planning and Preparation are vital factors for any activity or event to be successful, and reengineering is no exception. Before attempting reengineering, the question 'Is BPR necessary?' should be asked? There should be a significant need for the process to be reengineered. The justification of this need marks the beginning of the Preparation activity[9].

Prepare for BPR
- Build Cross functional team
- Identify Customer driven objective
- Develop Strategic Purpose

Map & Analyze As-Is Process
- Create Activity Models
- Create Process Models
- Simulate & Perform ABC
- Identify disconnects & value adding processes

Design To-Be Processes
- Benchmark processes
- Design To-Be processes
- Validate To-Be processes
- Perform Trade-off Analysis

Implement Reengineered processes
- Evolve Implementation plan
- Prototype & simulate transition plans.
- Initiate training programs
- Implement transition plan

Improve Continuously
- Initiate On-going measurement
- Review performance against target
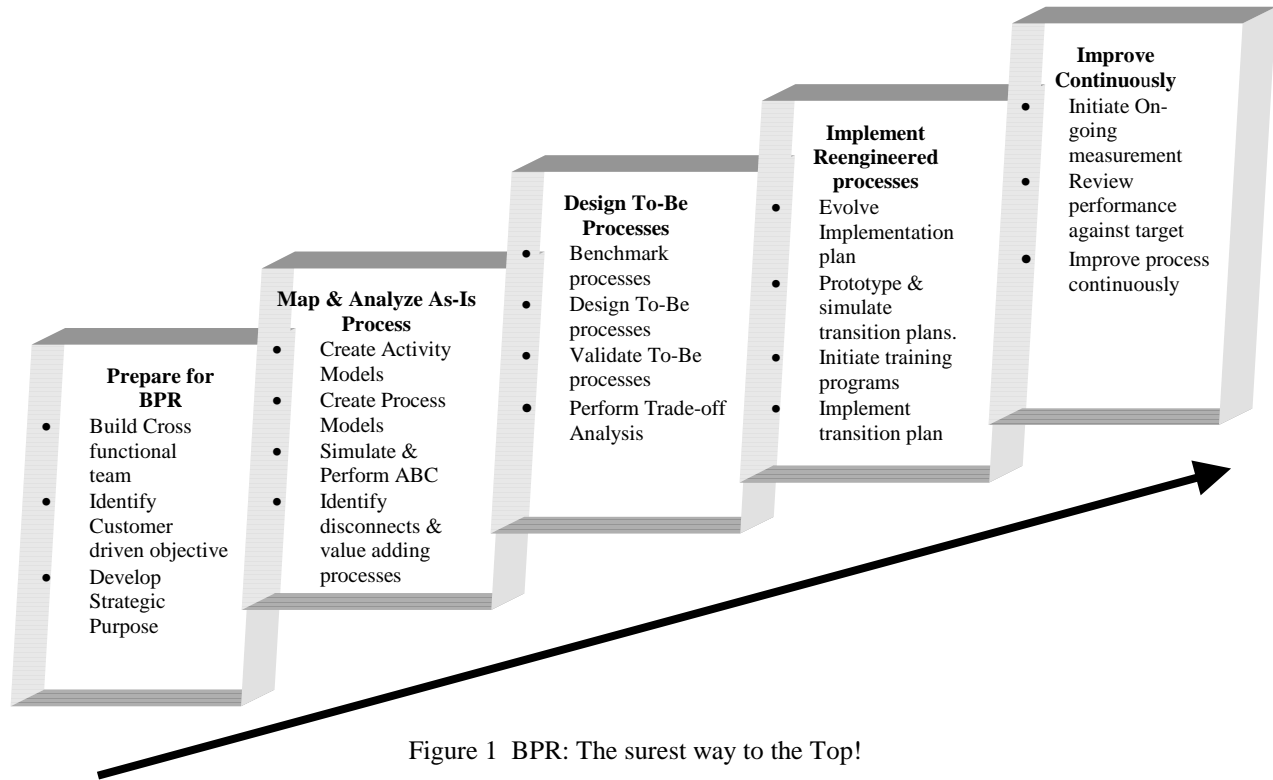- Improve process continuously

Figure 1 BPR: The surest way to the Top!

This activity begins with the development of executive consensus on the importance of reengineering and the link between breakthrough business goals and reengineering projects. A mandate for change is produced and a cross-functional team is established with a game plan for the process of reengineering. While forming the cross-functional team, steps should be taken to ensure that the organization continues to function in the absence of several key players[5]. As typical BPR projects involve cross-functional cooperation and significant changes to the status quo, the planning for organizational changes is difficult to conduct without strategic direction from the top. The impact of the environmental changes that serve as the impetus for the reengineering effort must also be considered in establishing guidelines for the reengineering project. Another important factor to be considered while establishing the strategic goals for the reengineering effort, is to make it your first priority to understand the expectations of your customers and where your existing process falls short of meeting those requirements. Having identified the customer driven objectives, the mission or vision statement is formulated. The vision is what a company believes it wants to achieve when it is done, and a well-defined vision will sustain a company's resolve through the stress of the reengineering process. It can act as the flag around which to rally the troops when the morale begins to sag and it provides the yard stick for measuring the company's progress[4, 9].

4.1.2 Activity #2: Map and Analyze As-Is Process:

Before the reengineering team can proceed to redesign the process, they should understand the existing process. Although some BPR proponents (in particular Hammer and Champy) argue against analyzing the current enterprise, saying that it inhibits the creative process, that might not always hold true[1]. It varies from case to case. While some organizations which are in dire straits might go the Hammer and Champy way (attempt a new process design while totally ignoring the existing processes) most organizations need to map the existing processes first, analyze and improve on it to design new processes. The important aspect of BPR (what makes BPR, BPR) is that the improvement should provide dramatic results. Many people do not understand the value of an As-Is analysis and rather prefer to spend a larger chunk of their valuable time on designing the To-Be model directly. What follows is an illustration that illustrates this fallacy.

A large manufacturer spent six million dollars over a period of one year in a bid to develop a parts-tracking system and was all set to go online. Only then did he realize that he had totally overlooked a small piece of information – 'the mode of transmission of information between the scheduling staff and the shop floor was through

a phone call.' But just because this small yet vital information had not been documented all his efforts added up to naught and the whole system that he had so painstakingly developed had to be scrapped. Alas! He had recognized the need for an As-Is analysis, way too late[1].

The main objective of this phase is to identify disconnects (anything that prevents the process from achieving desired results and in particular information transfer between organizations or people) and value adding processes[9]. This is initiated by first creation and documentation of Activity and Process models making use of the various modeling methods available. Then, the amount of time that each activity takes and the cost that each activity requires in terms of resources is calculated through simulation and activity based costing(ABC). All the groundwork required having been completed, the processes that need to be reengineered are identified.

4.1.3 Activity #3: Design To-Be process:

The objective of this phase is to produce one or more alternatives to the current situation, which satisfy the strategic goals of the enterprise. The first step in this phase is benchmarking. "Benchmarking is the comparing of both the performance of the organization's processes and the way those processes are conducted with those relevant peer organizations to obtain ideas for improvement[7]." The peer organizations need not be competitors or even from the same industry. Innovative practices can be adopted from anywhere, no matter what their source.

Having identified the potential improvements to the existing processes, the development of the To-Be models is done using the various modeling methods available, bearing in mind the principles of process design. Then, similar to the As-Is model, we perform simulation and ABC to analyze factors like the time and cost involved. It should be noted that this activity is an iterative process and cannot be done overnight. The several To-Be models that are finally arrived at are validated. By performing Trade off Analysis the best possible To-Be scenarios are selected for implementation.

4.1.4 Activity #4:Implement Reengineered Process:

The implementation stage is where reengineering efforts meet the most resistance and hence it is by far the most difficult one[2]. If we expect that the environment would be conducive to the reengineering effort we are sadly mistaken. The question that confronts us would be,' If BPR promises such breath taking results then why wasn't it adopted much earlier?' We could expect to face all kinds of opposition - from blatantly hostile antagonists to passive adversaries: all of them determined to kill the effort. When so much time and effort is spent on analyzing the current processes, redesigning them and planning the migration, it would indeed be prudent to run a culture change program simultaneously with all the planning and preparation. This would enable the organization to undergo a much more facile transition. But whatever may be the juncture in time that the culture change program may be initiated, it should be rooted in our minds that 'winning the hearts and minds of everyone involved in the BPR effort is most vital for the success of the effort[10]. Once this has been done, the next step is to develop a transition plan from the As-Is to the redesigned process. This plan must align the organizational structure, information systems, and the business policies and procedures with the redesigned processes. "Rapid implementation of the information system that is required to support a reengineered business process is critical to the success of the BPR project. The IDEF models that were created in the As-Is can be mapped to those created during the To-Be and an initial list of change requirements generated. Additional requirements for the construction of the To-Be components can be added and the result organized into a Work Breakdown Structure (WBS). Recent developments in BPR software technologies enable automatic migration of these WBS activity/relationships into a process modeling environment. The benefit here is that we can now define the causal and time sequential relationships between the activities planned[9]." Using prototyping and simulation techniques, the transition plan is validated and it's pilot versions are designed and demonstrated. Training programs for the workers are initiated and the plan is executed in full scale.

4.1.5 Activity #5: Improve Process Continuously:

A process cannot be reengineered overnight. A very vital part in the success of every reengineering effort lies in improving the reengineered process continuously. The first step in this activity is monitoring. Two things have to be monitored – the progress of action and the results. The progress of action is measured by seeing how much more informed the people feel, how much more commitment the management shows and how well the change teams are accepted in the broader perspective of the organization. This can be achieved by conducting attitude surveys and discrete 'fireside chats' with those initially not directly involved with the change. As for monitoring the results, the monitoring should include such measures as employee attitudes, customer perceptions, supplier responsiveness etc[12]. Communication is strengthened throughout the organization, ongoing measurement is initiated, team reviewing of performance against clearly defined targets is done and a feedback loop is set up

wherein the process is remapped, reanalyzed and redesigned. Thereby continuous improvement of performance is ensured through a performance tracking system and application of problem solving skills. Continuous improvement (TQM) and BPR have always been considered mutually exclusive to each other. But on the contrary, if performed simultaneously they would complement each other wonderfully well. In fact TQM can be used as a tool to handle the various problems encountered during the BPR effort and to continuously improve the process. In corporations that have not adopted the TQM culture as yet, application of TQM to the newly designed processes should be undertaken as a part of the reengineering effort[8].

5.0 Conclusion:

An intense customer focus, superior process design and a strong and motivated leadership are vital ingredients to the recipe for the success of any business corporation. Reengineering is the key that every organization should possess to attain these prerequisites to success. BPR doesn't offer a miracle cure on a platter. Nor does it provide a painless quick fix. Rather it advocates strenuous hard work and instigates the people involved to not only to change what they do but targets at altering their basic way of thinking itself. In this paper we have attempted in evolving a structured approach to reengineering.

"50 to 70 percent of reengineering efforts fail to deliver the intended dramatic results[4]." Those who are standing in the wings afraid to take the plunge must remember just this: A BPR effort has been considered a failure just because it doesn't provide the dramatic results it promised to deliver. But on after thoughts hasn't there been a significant improvement in the company's performance? A 200 % increase in output may not match the 300 % predicted. It may be a failure according to the high standards set by preceding BPR efforts. But if the question is – 'Are the results good enough for pursuing the BPR effort?' The answer is a resounding YES!!!

One more very critical factor to be noted is that the statement says- 50 to 70 % efforts *have* failed and not that they *will* fail. There is a monumental difference between the two. We can track down all these failures to the common trivial mistakes that these corporations commit. Once these mistakes are identified and overcome, the successful completion of the BPR effort is very much possible. Moreover failure doesn't mean that reengineering stops forever. "It usually stalls and then restarts as the company gets itself refocused and remobilized. It cannot stop. The business imperative is just too great[4] !"

6.0 Future Research:

An IDEF0 model for 'Transforming the Enterprise' is being developed and will be published on the web shortly.

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