

GLOBAL JOURNAL OF ENGINEERING SCIENCE AND RESEARCHES A REVIEW ON BUSINESS PROCESS REENGINEERING

Dr. P. M. Ardhapurkar¹, Nisha D. Tathe² & Neha D. Tathe³

¹Professor and HOD, Department of Mechanical Engineering, MGI-COET, Shegaon

²UG Student, Department of Mechanical Engineering, MGI-COET Shegaon, India

³UG Student, Department of Mechanical Engineering, MGI-COET Shegaon, India

ABSTRACT

This review paper focuses on Business Process Reengineering which is considered as an important tool used to solve business problems and improve the performance of any organization, that is by using this process, we determine the issues of customers and try to solve that. Business Process Reengineering means to generate new ideas by understanding the customer's needs and specifications. Business Process Reengineering is an effective tool that helps us to deal with the changes in technology as well as market. Business Process Reengineering refers to change the way of working of an organization so that better results are achieved. The purpose of BPR is to make your business processes the best in class.

Keywords: *Business Process Reengineering, (BPR), BPR Methodologies, BPR success and failure factors.*

I. INTRODUCTION

Introduction of new technologies in business processes and the changing needs of customers are the most important factors that affect the position of any organization in the market. Most organizations want to grow with increased performance, minimize the cost of services and products and provide customers with quality products by understanding about their needs [1]. Inefficient business processes and lack of innovation are the causes for failure of an organization. Companies are finding new solutions for their business problems. Some of the more successful business corporations in the world seem to have hit upon an incredible solution: Business Process Reengineering(BPR).

What is Process? : A process is a cross-function interrelated series of activities that convert business input into business output.

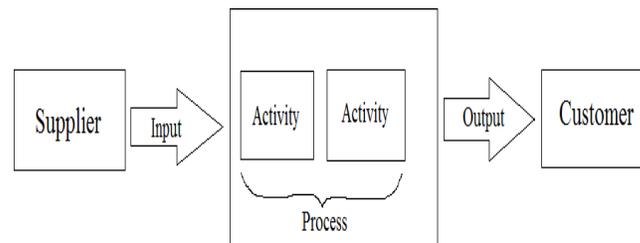


Fig 1: Process

What is Business Process? : A business process is a group of logically related tasks that use the firm's resource to provide customer-oriented results in support of the organization's objectives.

What is Business Process Reengineering? : BPR is defined as "a fundamental rethinking and radical ,,,the fundamental analysis and radical redesign of business processes to achieve dramatic improvements in critical measures of performance"".

Business Process Reengineering began as a private sector technique to help organizations fundamentally rethink how they do their work in order to dramatically improve customer services, reduce operational costs and become world class competitors. A key stimulus for reengineering has been the continuing development and deployment of sophisticated information system and networks. Leading organizations are becoming strong in using this technology to support innovative business processes, rather than refining current ways of doing work.

1. History

Business Process Reengineering first introduced to the world by Michael Hammer and James Champy. In 1990, Hammer suggested reengineering don't automate, it obliterate. He claimed that the major challenge for manager is to obliterate forms of work that do not add value, rather than using technology for automating it. This statement implicitly accused manager for having focused on the wrong issues, that is automating existing processes rather than redesigning a process.

Michael Hammer claimed that most business processes do not satisfy the customers and they should be removed not automated. Instead, companies should redesign these processes to satisfy customer need and their insufficient cost structure. Many management thinkers accepted BPR as a new tool for achieving success.

2. Why go for bpr

The companies go for Business Process Reengineering because [13]:

- The processes they are using become outdated or have no relevance with the current marketscenario.
- The departments in the companies are more focused on improving the departmental performance. This may lead to poor performance of the company.
- The technology is getting updated by each passingday.
- The existing processes that they are using may be costly, time consuming, obsolete,etc.

3. Principles of bpr

Michael Hammer, who introduced BPR, has proposed the following seven principles [17],[15]:

- Organize around outcomes, not single tasks.
- Have those persons who use the output of the process to perform theprocess.
- Subsume information-processing work into the real work that produces theinformation.
- Treat geographically dispersed resources as though they were centralized through shared data bases or telecommunication networks.
- Link parallel activities instead of sequentially integrating their results.
- Put the decision point where the work is performed, and build control into the process.
- Capture information once and at the source

4. Steps in bpr

Following steps need to be performed while implementing the Business Process Reengineering:

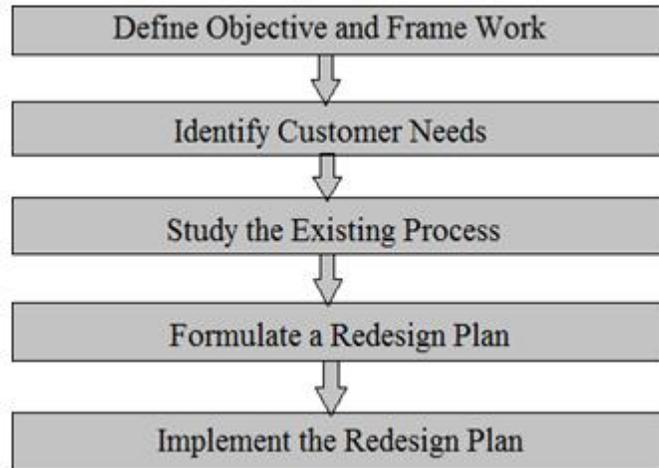


Fig 2: Steps in BPR [10]

- a) Define Objective and Framework: Firstly, we need to define the objective that is why we want to do reengineering in terms of quality and quantity. The objective refers to the end result that we want to get after reengineering. Once the objective is decided, it needs to be discussed with all members of organization because unless everyone in the organization is not ready for the change, BPR cannot be implemented successfully.
- b) Identify Customer Needs: While redesigning a process, first priority must be given to customers' needs. The process must be redesigned in such a way that it gives customers satisfaction. For this type of customers, customer requirements and problems, buying habits, etc must be considered.
- c) Study the Existing Process: Before redesigning a process, it is necessary to study the existing process carefully. This provides a base for redesigning of any process.
- d) Formulate a Redesign Plan: Once the existing process is studied completely and the needed changes are noted down and then they are converted to a redesign plan. Many redesign plans are made and the best of all is selected.
- e) Implement the Redesign Plan: Finally, the proposed redesign plan is implemented so as to achieve the desired improvements.

5. BPR Methodologies:

The following data shows the generic Reengineering methodology [7]:

- a) Preparation:

Central questions addressed:

- What is the level of commitment of senior executives?
- How can reengineering address our business goals?
- Who should be represented on the reengineering team?
- What skills will team members have to learn?
- How do we communicate this effort to employees?

Key activities:

Evaluating organization and environment, recognizing need, setting corporate and reengineering goals, identifying and motivating team, training team on reengineering concepts, development of a change plan, development of project scope, components and approximate time frames.

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Types of tools/techniques:

- Planning
- Teambuilding
- goalseeking
- motivation
- changemanagement
- projectmanagement

II. PROCESS-THINK

- Central questions addressed:
 - What are our major business processes?
 - Who are their customers?
 - What are our strategic/value-added processes?
 - What processes get highest priority for reengineering?

Key activities:

Model processes, model customers and suppliers, define and measure performance, define entities or „,things“ that require information collection, identify activities, map organization, map resources, prioritize processes.

Types of tools/techniques:

- Customer modeling
- Performance measurement
- Cycle time analysis
- Cost analysis
- Process modeling
- Process value analysis
- Value chain analysis
- Workflow analysis
- Organizational mapping
- Activity-based cost accounting

III. CREATION

Central questions addressed:

- What are our sub processes, activities and steps?
- How do resources and information work through processes?
- Why do we do things this way?
- What are the key strengths and weaknesses of our processes?
- Can we benchmark? How?
- Ideally how would we like these processes to work?
- Can IT be used to transform these processes?

What are our stretch goals for these processes? Key activities:

Understand process structure, understand process flow, identify value-adding activities, benchmark performance, brainstorm IT possibilities, estimate opportunity, envision the ideal process, integrate visions, and define components of visions.

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Types of tools/techniques:

- Work flowanalysis
- Process valueanalysis
- Benchmarking
- Cycle timeanalysis
- brainstorming
- visioning
- documentation

IV. TECHNICAL DESIGN

Central questions addressed:

- What technical resources will weneed?
- How can these resources best beacquired?
- How will all the technical elementswork?
- How will the technical elements interact with the socialelements?

Key activities:

Examine process linkages, model entity- relationships, develop performance metrics, consolidate interfaces, consolidate information, design technical systems, modularize, plan implementation

Types of tools/techniques:

- Information engineering
- Work flow analysis
- Performance measurement
- Processmodelin Project management

V. SOCIAL DESIGN

Central questions addressed:

- What human resources will we need for the reengineered processes?
- How can we best acquire these resources?
- Who is likely to resist these changes and why?
- How will the social elements interact with the technical elements?
- What will the new organization lookalike?

Key activities:

Empower customer contact personnel, identify job clusters, define jobs/teams, define skills/staffing, specify organizational structures, design transitional organization, design incentives, and manage change, plan implementation

Types of tools/techniques:

- Employee empowerment
- Skill matrices
- Teambuilding
- Self-managed workteams
- Case managers
- Organizational restructuring
- Change management
- Incentive systems
- Project management

VI. IMPLEMENTATION

Central questions addressed:

- How do we ensure that the transition goes smoothly?
- What mechanism should be established for unanticipated problems?
- How do we monitor and evaluate progress?
- How do we build momentum for ongoing change?

Key activities:

Develop test and rollout plans, construct system, monitor progress, and evaluate personnel, train staff, pilot new process, refine, full rollout, continuous improvement. Types of tools/techniques:

- Process modeling
- Information engineering
- Skill matrices
- Performance measurement
- Just-in-time training
- Project management

Due to the increased competition and difficult operating conditions, organizations are facing many problems today. So they have to go for BPR so as to survive in the market. The methodologies view organization from process perspective. The process perspective has following factors: flow, effectiveness, efficiency, cycle time and economy [19]. The following are the different BPR methodologies[4]:

1. Hammer and Champy Methodology.
2. Davenport’s and Short’s Methodology.
3. Process Analysis and Design Method.
4. Jacobson’s Methodology.

1. Hammer and Champy Methodology:

Hammer and Champy were more focused on role of IT in BPR. According to them inductive thinking was required to recognize the inherited power and its applications. That is instead of first defining a problem and then looking for solutions to it, a more efficient way is to first find a powerful solution and then solve the problem. Hammer and Champy suggested a BPR methodology which consists of six phases shown in below figure.

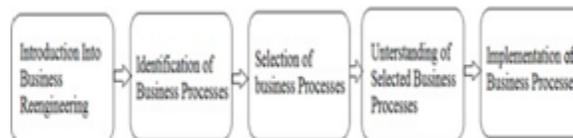


Fig 3: Hammer and Champy Methodology [4]

2. Davenport’s and Short’s Methodology:

Davenport and Short told IT as the heart of BPR. They suggested to consider IT in terms to support a redesigned business process. Along with innovation and technology, they recognized the importance of organization and human resources to change the management. They suggested a methodology in which the first three steps were similar to that in Hammer and Champy methodology and other two were different as shown below:

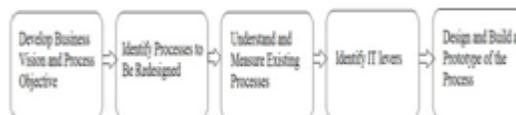


Fig 4: Davenport’s and Short’s Methodology [4]

3. Process Analysis and Design Method:

Process Analysis and Design Method (PADM) was introduced by the Informatics Process Group at Manchester University. It is a collection of techniques that can be used for business process reengineering. It comprises of two phases:

Representation, which is an activity for developing knowledge and understanding of a process,

Refinement, during which the knowledge gained during the representation, is used to consider changes and solve the problems

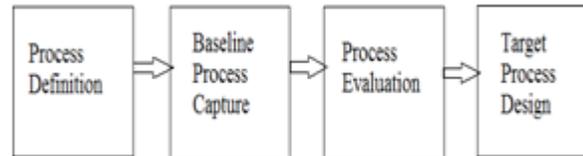


Fig 5: Process Analysis and Design Method (PADM) [4]

4. Jacobson's Methodology:

This methodology is also known as Object Oriented Methodology. Giving importance to business, Jacobson defines an object as an entity that contains information important for the company. Examples of object are customers, invoices, etc. It is given in below figure

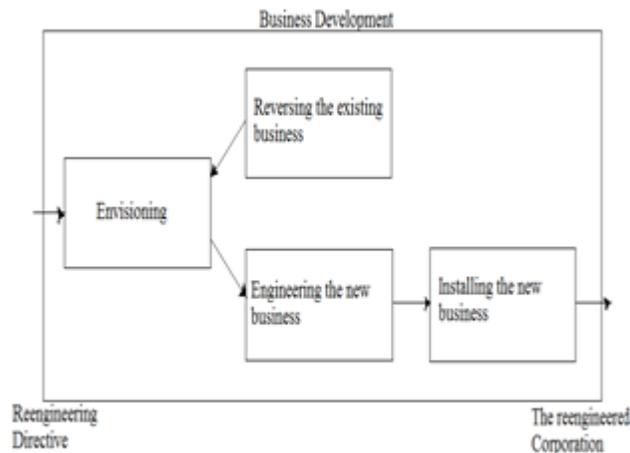


Fig 6: Jacobson's Methodology [4]

VII. FACTORS AFFECTING IMPLEMENTATIONS OF BPR

Implementation of BPR is not always easy. It is affected by many factors. Factors that affect the implantation the most are [2]:

- Human factors.
 - Technical factors.
 - Organizational culture.
- Human Factors: Implementation of BPR is most affected by human factors as it directly depends on activeness of the employees. If the employees are not certain about the redesigning or they feel uncomfortable with it, it affects the implementation.
 - Technical Factors: Technical factors refer to the management idea. The idea is based on the belief that the reengineering will give enhanced results and reduce the problems.

- Organizational Culture: Organizational culture determines the intellectual and ethical boundaries of an organization. If the members of the organization are determined and committed to work and have common views then implementation of BPR becomes easy.

VIII. SUCCESS FACTORS IN BPR:

Following are the factors that are responsible for BPR success[1]:

- Egalitarian leadership
- Collaborative working environment
- Top management commitment
- Changes in management system
- Use of information and communication technology (ICT)

IX. FAILURE FACTORS IN BPR

The factors that are responsible for BPR failure is resistance to change. Naturally, the change is a basic in BPR but usually human resists this change. This resistance is considered the most common problem of the BPR success. Employees resist changes due to what they will be in the future, the change which is made by BPR including authority loss, job loss, and getting anxious.[1]

X. CONCLUSION

From this paper, we conclude that Business Process Reengineering is used by many organizations to solve their problems and improve their work standards, quality of products and services and profit. It emphasizes on innovations in business processes. To achieve the desired results after reengineering of business processes, BPR must be implemented using appropriate methodology. Many factors need to be considered while the implementation of BPR if we want to make it a success. The failure rate of BPR is more (nearly 70%) than the success rate. This is because of incorrect implementation. The success of BPR also depends on the ability of the organization to manage their expectations.

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