Who wants to be reengineered?

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Abstract

The objective of this paper is Business Process Reengineering introduced by Michael Hammer and James Champy. The paper reviews definition of reengineering in Corporations and exploring motivations of implementing BRP in industry. It explores the principles and assumptions behind reengineering, success and failure factors with emphasize on the role of human resource in BPR. It focuses on impact of using reengineering to downsize and tremendous layoffs, which has occurred during first decade after the introduction of BPR by Hammer and Champy and yet some organizations are still using it to lower their cost and increase company benefit in the name of reengineering. Some functional and non-functional objectives will be addressed to tackle this issue and the way which companies can apply it to change this behavior. At the end, the paper offers some suggestions how to gain virtues of reengineering to achieve dramatic benefits and improvements aligned with respect to human resources. Illustration section will describe a real example, which a company applied some of the suggestions discussed in this paper, and how they achieved their goal successfully.

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1 Introduction

Reengineering process introduced in 1990 By Michael Hammer with his paper "Reengineering Work; Don't Automate, Obliterate" published in Harvard Business Review. And later on it expanded after Hammer published his book name "Reengineering the Corporation" together with James Champy. Normally managers decide to do reengineering when the current system is no longer efficient or is not satisfying customer needs in a way it should do so. It may also apply due to the reason that the firm is no longer able to compete with other companies or is not profitable. So in this stage the company feels the need either to change the product or restructure the existing processes. There are quite couple of methods to overcome the issues and challenges. One of them is to do the reengineering according what Hammer introduced in his book. Many organizations since 1990 tried to fit the BPR into their firm to take the advantage of this new concept. However not all of them were successful. As Hammer mentioned in his book the reengineering success rate was 30% due to weak implementation (1993 Hammer and Champy).

Reengineering was supposed to save the organizations, the economy and product performance. Firms expected to see customer is more satisfied together with huge reduction in cost. Although since then many products reengineered successfully and they achieved dramatic advantages through implementing BPR method, but there were also some pains, which they suffered during implementation of this technique. There are some reasons that may lead a project to fail once applying reengineering method, but this paper will focus on one of the dark side of reengineering which most of the time was not considered in the projects.

Many of the layoffs in 1980s till 1990s resulted from reengineering, restructuring and downsizing in the name of BPR. The aim of these efforts, which has done in this trend, was about to make the firms more efficient and profitable in the face of customers and consumers. However, they failed to integrate 3 main factors of reengineering together. Process, Technology and People are generally essential elements of BPR. A successful reengineering mechanism is the one, which can leverage all of them together to achieve efficiency. People need to be taking care of while reengineering the processes within the company. Nobody wants to be reengineered; in contrast they want to be part of the change, which is happening in their environment. Layoff is not the solution, instead corporations need to tackle the issue of people and relocate them in to new projects while improving the processes within the company. Changing the structure of a business in order to replace legacy systems with up-to-date and efficient projects can have disadvantageous effect on workforce. Therefore industry needs to define proper plan while they want to reengineer the processes and avoid neglecting the people's value and benefits. They need to use the experiences of existing workforce to add value to the whole change process instead of releasing them.

The paper begins with reviewing the Business Process Reengineering of radical change by pointing out what is BPR and what is not. Defining some success or fail factors in reengineering process and providing some examples of real projects who applied massive layoffs. It continues of defining business process steps, which separate it from restructuring or incremental changes. The paper's main focus is the neglect of human dimension within BPR and how it can affect the workforce values. Finally, it suggests

how to prepare people to overcome the fear and cope with accelerating pace of change. In conclusion, it recommends some solutions how to tackle this issue and define correct reengineering process that people can still have jobs while applying BPR techniques.

2 Overview of Business Process Reengineering

Michael Hammer introduced reengineering and provided the following definition:

*"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."*

Figure 1

Hammer was a former professor of computer science at the Massachusetts Institute of Technology (MIT), known as one of the founders of the management theory of Business process reengineering. Hammer and James Champy further published a book: "Reengineering the Corporation", to develop the concept of reengineering in depth. Above-mentioned definition of Hammer regarding BPR has 4 essential keywords, which should take into detail consideration in order to make the process successful: Fundamental, Radical, Processes and Dramatic.

Fundamental

Organizations need to define fundamental operations in their corporation. They need to address what is fundamental for their firm and ask the questions that why do they need what they do? And why they do it in this way that they are doing it so? They need to think about essential operations and changing the way work is done. Often asking basic questions will lead people to think about what is the fundamental and important operation in the company that is not working as expected so they can come up with the issues and obstacles that caused by wrong assumptions.

Radical

Radical redesign means to think and design from scratch and without any previous assumptions. Design from the beginning and throw away the existing rules and procedures that are in use. It means to invent completely new work and reinvent the wheel.

Processes

Processes are the most highly valued element in reengineering. Basically most of the companies are task-based oriented instead of process-based thinking. The company has divided to separate departments and several simple tasks assigned to each of them. This

type of task-based oriented method will cause more delays in process life cycle and also it will increase data discrepancies from one department to the other one. This classic business structure should change to process-based method by eliminating non-valued hierarchies and focus on performing the task more efficiently.

Dramatic

Reengineering is not about incremental improvements or small changes during intervals, rather it is dramatic change on processes to have a huge impact on the business. Reengineering is about dramatic change to achieve improvements in performance. There are couple of different companies which they feel the need to change and apply reengineering to their firm, first are those which they are in deep trouble and they have no other choice to face a dramatic change. Second group are companies which they oversee themselves in trouble according to economic growth. The third groups are the one who are in peak condition but they want to apply reengineering in order to lead over the competitors.

Most people think of reengineering as reducing cost, however quality, service and speed are three other measures often overlooked. Proper analysis of implementing reengineering should be in place in order to achieve essential keywords that shape correct definition of this process. Without considering any of them reengineering can be a tremendous disaster that may cost so much money for the organization without bringing any value. Process improvements can be categorized as 3 types as following:

1. **Quick fixes**
   These are basically quick hits that can apply to the system or process with low risk on change. They are easily achievable with efforts that provide immediate results and immediate paybacks usually within a month.
2. **Incremental improvements**
   These are changes to close small performance gaps within the project. They are usually small changes but meaningful achievements for business
3. **Reengineering**
   Fundamental rethinking to achieve dramatic changes in performance, cost and quality

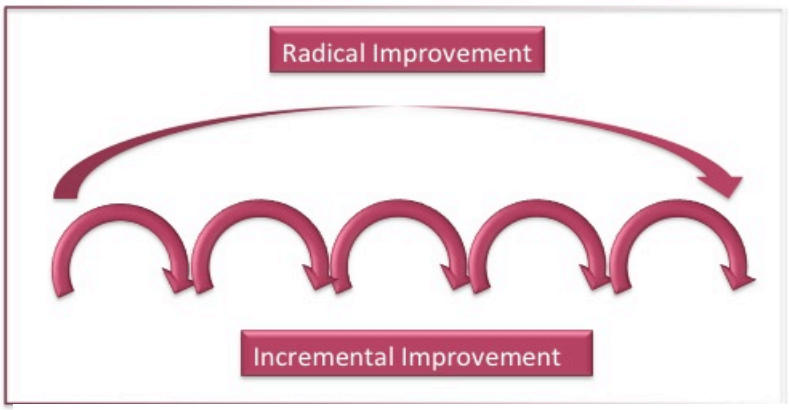


Figure 2

3 What is not BPR?

BPR often used as one of the aspects of change by companies to cut costs and bring more profit. But they often fail to implement the real reengineering by mix it with one of below methods of change techniques. However BPR:

- Is not “Automation”
- Is not “Downsizing”
- Is not “Incremental change”
- Is not “Restructuring”
- Is not TQM (Total Quality Management)

Downsizing or restructuring means doing less with less but on the other side BPR is doing more with less. Total quality management emphasizes on incremental change and gradual improvements while reengineering is radical change and redesign with drastic improvement in business performance. There are many differences between TQM and reengineering and nowadays TQM is replacing by corporate reengineering as powerful technique to achieve company goals.

Table below illustrates the difference between TQM and BPR:

	TQM	BPR
Degree of change	Incremental	Radical
Starting Point	Existing Process	Clean Slate
Frequency of change	Continuous	One time
Time required	Short	Medium to Long
Inception/Participation	Top-Down/Bottom-up	Top-Down
Scope	Narrow; task oriented	Broad; process oriented
Risk	Low	High
Primary Enabler	Statistical Control	Information Technology
Type of Change	Cultural	Cultural and Structural

[Source: Davenport 1993]

Reengineering concept implemented poorly by many companies in the beginning. Many companies used this term to downsize the company and reduce cost by streamlining jobs. The IBM Corporation is one of the examples, which they cut 154,000 employees in 1989. Hammer also later admitted to paying little attention to human resource while developing the method. He said that, “In reengineering, we carry the wounded and shoot the stragglers", and "It's basically taking an ax and a machine gun to your existing organization." The result of using this terminology was huge layoffs which some of the companies carried out. Normally the companies which they wanted to fix the companies issues quickly and improve their business via reengineering they misused this term for firing the resources. Reengineering became synonym to downsizing when companies like Pacific Bell reduced 10,000 employees under the name of reengineering in 1995. AT&T laid off 18,000 workforces in 1998, followed by Compaq with 15,000, Motorola with

15,000 and Raytheon with 14,000. They laid off in an effort to increase productivity by sacrificing the personnel.

4 Proposed Lifecycle of BPR

To achieve successful reengineering process, step-by-step discipline is required to make this happen according to the main idea behind the reengineering concept. Typically proposed steps of reengineering process are according to figure 3 and it consists of couple of steps how to perform BPR process. As we can leverage some steps together, proposed lifecycle in this paper presented in figure 4 which we will illustrate each stage in detail.

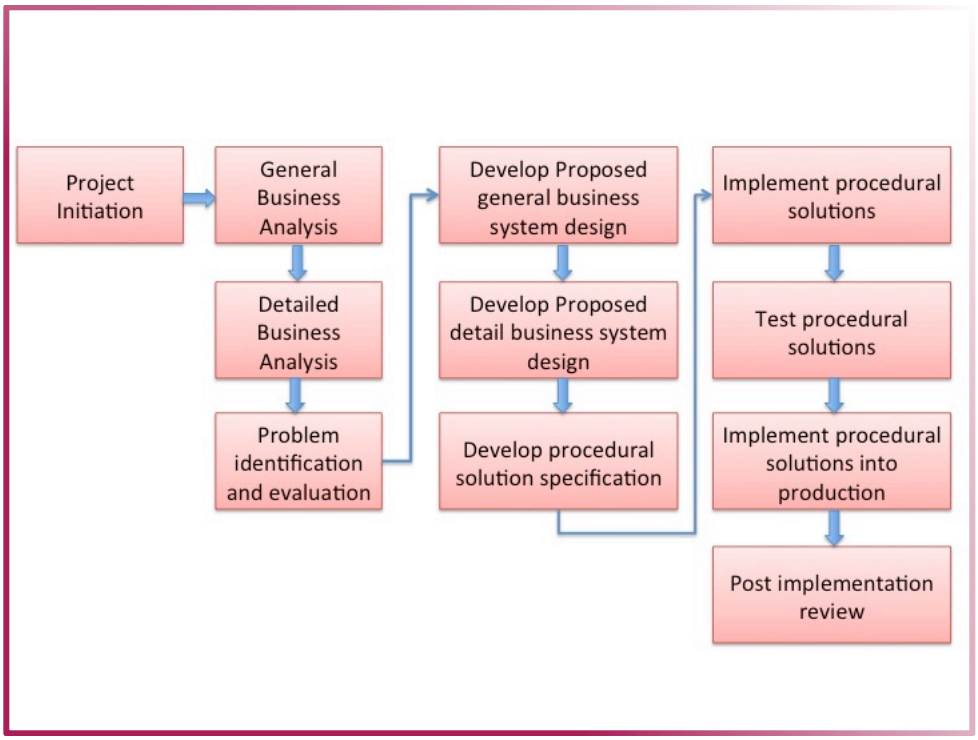
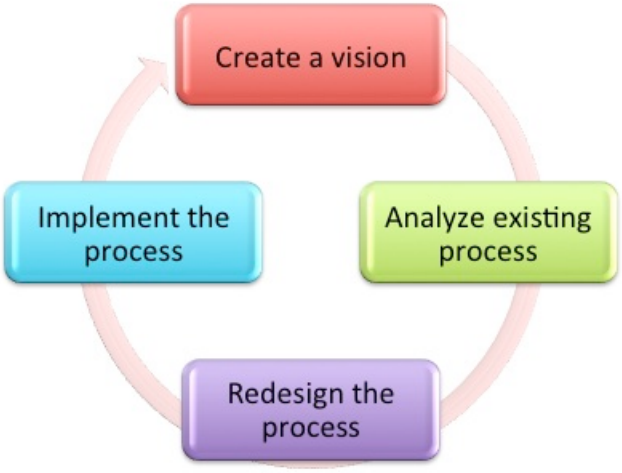


Figure 3

Essential and fundamental steps in this framework consist of 4 parts as shown in the picture. Each step considers different aspects of reengineering and it's critical to follow them in order. There are 3 pillars in business process management, Technology, People and Processes. All 3 aspects need to work to make the project succeed. The implementation of BPR should cover mentioned pillars in each step in order to enable organization to achieve its aim.

Create a vision



First step in BPR process is to create a clear vision about the project. This step also known as "Project initiation" phase. It is important to determine customer needs in this section and collect their expectations from the project and get feedbacks regarding challenges with current system. All parties and people who are working on current system should also get involved as they have a good vision of what is going on in the project. Performance issues should identify during this stage and a vision document should be created to have a clear picture of the desired future position. Vision document should identify initiatives that will improve performance together with the goals that satisfy customer's need.

Analyze existing process

Now that we have a better view of which process to reengineer we need to step back and take a deep look at existing process and analyze it. Evaluation of current system's component, problem identification and identify alternative approaches are different steps include in this phase. We need to ask the question why we are doing the process in the way doing it now. If we had today's technology and clear visibility of the system in the beginning before implementing current system, how we could develop it at that time? Understanding the reasons behind the current processes is important effort which may takes time but worth to address. Modeling of the current system is one of the important parts of this phase. Process inputs and outputs should identify to have a better clue, which can also help in transaction and migration from old to new system. Requirements, resources and input data can be some examples of inputs. For output we should consider elements such as data outputs, cost and throughput. Unnecessary steps should eliminate and simple steps should leverage into one phase to decrease delays and errors by passing through several steps. Internal process owners should communicate with managers to analyze the processes and become part of planning team.

Redesign the process

Now that potential improvements are identified and documented together with issues of current processes it is time to forget about the previous flow and redesign the processes based on gathered information. Efforts, which have been made in previous sections leverages to design a new and desired system. This phase is the important step and the company needs to use all of the resources to achieve the best output from reengineering. Principles of BPR should be brainstormed to make sure following the right path. Customer perspective should be addressed and if possible a presenter from customer

should participate also. And finally a team of diverse designers and implementers should form to create the processes according to below combination:

- Members from outside of the existing process
- Members from inside of the existing process
- Customer if possible
- Members who know the current technology
- Members from outside the company
- Managers who can evaluate the impacts on organization

Implement the reengineered process

Implementation is the most difficult part of the process. However, if previous sections carried out perfectly it can ease the last part. Successful corporations in reengineering process put majority of their efforts in final implementation stage to make sure all aspects of reengineering process will implement carefully. In addition to implementation of new processes in the business there are other tasks in this stage that include pilot tests, monitoring the result, preparing the workforce and train them to adapt themselves into new information technology system.

Transforming the workers will require a set of activities. First of all, during the new process company should overcome some issues, which may happen to the people who are dealing with legacy system and is going to be replaced with new one. Fear to change is the first impression from human which may be a showstopper to the project. They need to feel that they are part of the change and thus they will be trained well to get ready to work with the new processes. Second, the company should retrain the workforce and make them ready so that they would be able to deal and work with the new system. In fact in transforming from legacy system to the new one many things can go wrong but managers should plan ahead for smooth move from both technology point of view and manpower reassignments. Some corporations found that if it took 6 months for a project to reach last phase, it will take three times more to implement the new system. They also need some more time to spend on giving trainings to personnel and reassigning them to new positions. Reassignment will enable company to allocate more resource to handle new processes and therefore no one will loose his job and they can give more services to end users thus they achieve the ultimate goal of increasing customer satisfaction.

5 Reengineering the Human Resource

One of the major showstoppers in convincing organization to apply business reengineering is high rate of failure in BPR projects. According to study conducted by Standish Group on 1995, 84% of the projects fail in experiencing reengineering. Therefore finding the failure factors for such high rate compared to other process improvement would be important. Basically, past researches shows that two factors of failure can categorize to employee resistance to change (Stanton et al., 1992) and lack of resources for the BPR effort (Bashein et al., 1994). BPR also fails due to incorrect apply

of reengineering method. The reason behind is managers try to fix the process instead of changing it or they ignore the impact of other processes or quitting too early. But the most focus of this paper is the failures due to fail of human consideration in the process. Neglecting workforce values and benefits is the most essential factor in blocking the reengineering process. Failing the importance of the process change on people in organization can affect the environment of the new project. There are some obstacles regarding human resource in reengineering process that some of them can be as following:

- Resistance to Change
- Job Losses
- Tradition and Culture
- Lack of Management Support
- Unrealistic Expectation
- Inadequate Team Skills

In transition from legacy system to new one, management role is important to make wise and clear steps. Managers should take the responsibility of moving the workforce through the change. The work force is usually tied to old technologies with inadequate training programs. Employees fear to loose their jobs, which is the main result that they resist to change. The objective of BPR is not including employee layoff but some organizations use it for downsizing. Therefore there is always a fear about loosing the jobs associate with reengineering efforts. Additionally, it's a human nature to feel uncomfortable to changes. People may used to do the same task over and over again and don't feel comfortable of changing the job. Managers need to make sure to plan for adequate trainings or knowledge transfers in case they need to gain new competencies. Balancing between human resources and reengineering should be in place to make the whole process a successful business. Managers should consider that BPR is not restructuring, automation, downsizing or layoffs. It is the examination of three essential components of the business, Technology, Process and the People.

5.1 Functional and Non functional Objectives

A successful implementation of BPR needs constant management with both sensitivity to technology transformation from old system to the new one together with respect to employee value and benefits. New process will probably need new structure and skills within the workforce. Effective managers should support the people and prepare them for the transition to new change. They need to constantly communicate with the team who will ultimately work with the new system. Close communication is a key factor to overcome the people's fear regarding downsizing and unemployment. Reengineering effort will not succeed without conducting new education and training for the employees who will need to deal with the new processes. A team of people needs to form in order to move smoothly from legacy system to the new one. Brandenburg and Binder (1999) suggest that a systems approach that includes reskilling, revising incentive and reward systems, along with the use of new performance measurements and more appropriate organizational structures would provide a more humane approach to change management. [Reengineering, By Emily Neidhart]

The list of required functional objectives for the transition is as follows which also illustrated in figure 4:

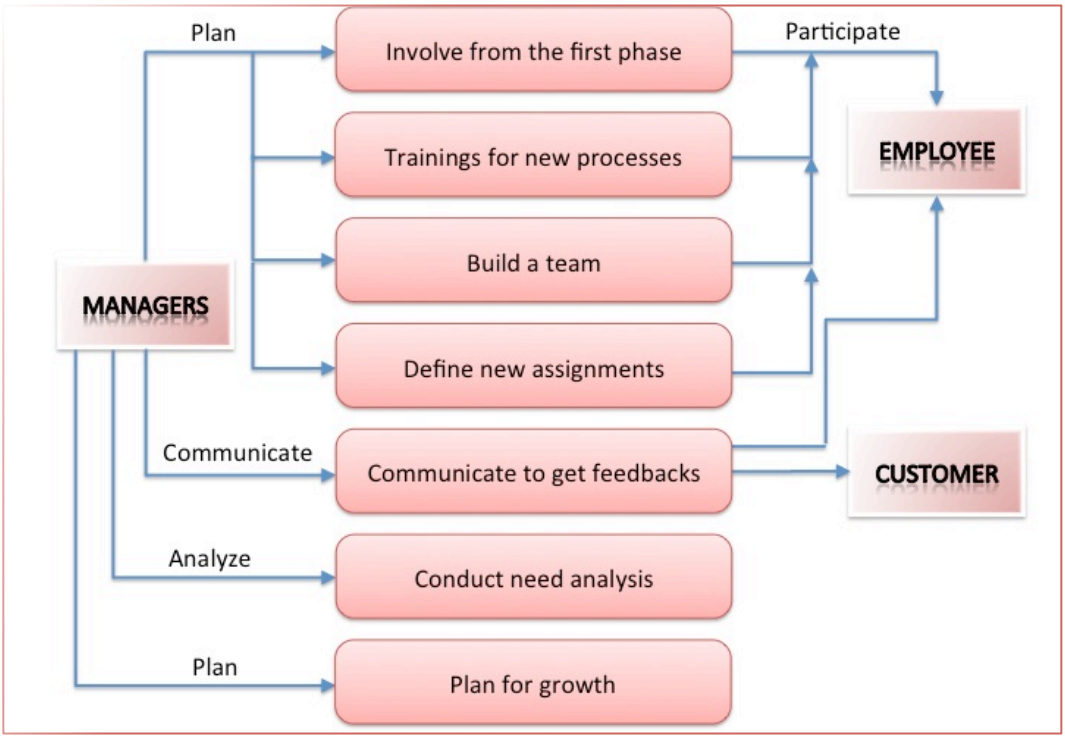


Figure 4

1. **Involve people from the first phase of the project so they can be part of the change**

   To decrease the change resistance and fear due to unemployment, it is important that the managers involve the personnel from beginning steps of the project so that they know what is going on to increase awareness during the project.

   a. Non-functional objective: Increase awareness

2. **Conduct proper trainings and educate them how to use the new process**

   New project will bring new technology and it requires new expertise. Therefore managers need to conduct training for workforce to teach them how to work with new system. OJT would be a perfect experience if available. Instead of hiring expert people to work with new technology they can use the existing people to support the project, which increase user capability and also knowledge reuse.

   a. Non-functional objective: Increase capability

b. Non-functional objective: Knowledge reusability

3. **Communicate to get feedbacks with the people involved in the process**

   Managers need to communicate with workers and get feedbacks to address their issues in early stages of the process. This can bring trust between them and frequent and friendly communication will help smooth transition to the new process.

   a. Non-functional objective: Increase trust

4. **Communicate to get feedbacks from customer to address their needs**

   Communication with customer is essential factor to make sure company will address concerns for legacy system and eliminate them in new process. People need to communicate frequently with customer after implementing the new system to respond customer concerns and issues immediately. Mutual trust would be necessary between company and customer.

   a. Non-functional objective: Increase trust
   b. Non-functional objective: Friendly interactions

5. **Define new assignments so everyone can participate in the change process**

   To increase efficiency and split the work between workers managers need to define assignments according to new project for each team member so everyone can participate in change process.

   a. Non-functional objective: increase manageability
   b. Non-functional objective: increase efficiency

6. **Build a team of people with different skills to manage the new system**

   To organize transition to new system and take the advantage of different skills, managers need to shape a team of people grouped from different members even outside of the project. Thus they can operate in a team to bring values and increase cooperativeness between employees.

   a. Non-functional objective: Increase manageability
   b. Non-functional objective: increase cooperativeness

7. **Conduct a proper needs analysis by focusing on human component**

   Apart from analyzing which technology to use in new project, a perfect need analysis should be conducted to focus on human resource. It will also increase the feasibility of the project to make sure it can accomplish within cost and schedule.

   a. Non-functional objective: increase project feasibility

8. **Use the experience of people who were working with legacy system**

   Employees who worked in previous project have better feasibility of the legacy processes so that they can help in designing new system to solve the existing issues and eliminate them in new one. It will increase reusability of knowledge from ex-employees.

   a. Non-functional objective: Increase Reusability

9. **Plan for growth under the process of reengineering**

   Every project needs future growth that managers should plan for it. It will help the project to be extensible for future updates.

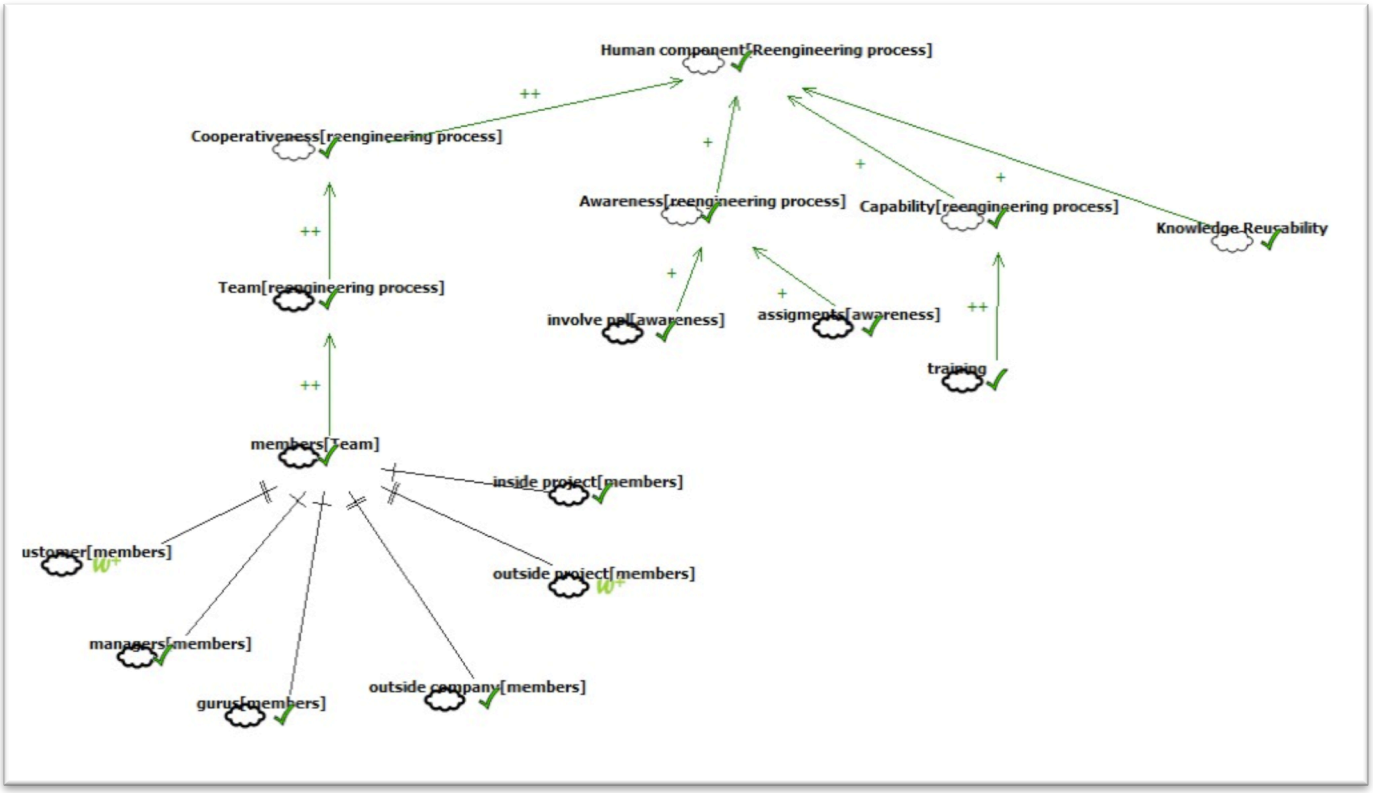
   a. Non-functional objective: increase extensibility
   b. Non-functional objective: increase manageability

10. **Evaluate employees performance**

    Both employee and organization will benefit from evaluation. Employee performance evaluation includes goal setting, performance measurement, performance feedback that will help business to succeed.

    a. Non-functional objective: measure productivity

Non-functional objectives that mentioned in above list can be also illustrated as below diagram:



6 Illustration

To illustrate how companies can deal with human component challenges it is better to take a look at an example from GTO. GTO Inc. is a small company based on Florida, which produce automatic gate openers. The problem started after founder's dead, which they suffered from lack of line credit. The company was loosing money dramatically everyday. Employees required working twenty-four hours a day in order to fulfill the important orders. The new CEO, Chuck Mitchell adopted new strategies to overcome the issues with focus on human resources. He tried to create an atmosphere of trust and optimism among the employees. Listening to and adopting their suggestions and improving their health and disability insurance. When things started to turn around he increased employee pay and bonuses. He allowed ten minutes break for employees and kept the coffee machine stocked to satisfy employees who are working for long hours to save the leaky roof. After a year, net profit moved from red to nearly $500,000. This was accomplished by a 9% increase in gross sales along with a 33% decrease in total operating and administrative costs. Employee turnover decreased equally dramatically. As employees began to seek outside education and were promoted from within, the number of returned goods fell. They succeed by focusing on human resource instead of processes. [Reference 16]

7 Conclusion

The reengineering processes have many aspects that each of them should be taking care of separately. The part, which is related to technology and process, can be easily change and redesign. However, the other part is "people", which most of the organizations fail to consider and plan for it. Although it's really difficult to address all employees desire and try to keep their jobs but business can take actions that mentioned in this paper to save as much as it can. In general, not only it needs job and skill change but it also faces human behavior and normal challenges, which may occur to anyone who sees himself to be part of reengineering process. It is human's nature to resist in face of changes. As it highlighted in the paper in functional objectives, managers should help people to cope with these changes. Therefore, neglecting human component simply would not be the solution. Reengineering process is not about downsizing, automation or obliterate so a careful vision should developed once managers decide to apply the process.

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