

THE ROLE OF THE REINGENEERING ON THE ECONOMIC EFFECTS OF THE BUSINESS

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Abstract: *Re-engineering is an important concept in the implementation of radical organizational changes. It appeared in '90s of the last century as a new vehicle redesign of business processes, creating conditions for efficient operation. According to some research, it achieved a rapid and successful expansion, especially in large companies in the UK. It is, in some ways, understandable since the re-engineering has opened new perspectives in the development of the organization. In addition, this concept has undergone organizational changes specific media coverage and popularization, as well as the redesign of business and technology processes, and reengineering. The paper points out the importance of the place and role of re-engineering to improve the economic effects of the business.*

Keywords: *re-engineering, technological processes, BRP, economic effects*

INTRODUCTION

In the literature there are many definitions of the concept of reengineering. Defined as a radically new process of organizational changes that many companies use to promote their business in relation to consumer demand - consumer satisfaction (Lunson 1992), as the redesign of organizational processes (production and operations) for the suspension and elimination of processes that not in the function of corresponding values that are key milestones in the business enterprise (Chait, Lynch, 1995). M. Hammer and James Champy defined reengineering as "a fundamental reconsideration and radical redesign of business processes to achieve dramatic improvements in critical, measurable performance, such as cost, quality, service, and speed" [7].

Re-engineering abandons classical approach of the process and orients to the integration of different activities in homogeneous processes performed by the respective teams. A number of different processes are realized in the organization, such as the underlying processes, additional processes and management processes. All of them can be reduced in two key categories: processes of material processing and information processing. The re-engineering process may involve both processes, but the process of change may be subject to only one of them. In practice, organizations often choose to begin the process of change that is not in scope and depth characteristic of the radical re-engineering. The main reasons for the "diluted" approach is the unwillingness or striving to improve in the given framework of what is the most important and that helps an organization to raise business efficiency, reduce

costs, and improve customer relationships. Namely, it is considered that re-engineering should be carried out if the organization intends to pursue ambitious goals based on changed conditions and efficient processes. In the latter context, ask the fundamental questions about the work of the organization: why we are doing and why we do this. Given this is a process of fundamental and radical change (as defined) shall apply to the organization if it wants to achieve substantial improvement of business, a high level of economic performance and competitiveness. Therefore, re-engineering is the process that the organization should provide incremental gains, but visible progress in all aspects of business, namely the expansion and change results. It is necessary to point out to the new philosophy and concepts to be applied in the public sphere of education and management so the state could efficiently and effectively respond to new challenges and complexity of both the national and global levels [1].

FEATURES OF THE REENGINEERING

A characteristic of reengineering is to include more organizational dimensions such as processing of materials, in different places in the organization (manufacturing), information processing in all places and all organizational levels, primarily in marketing information, finance and accounting, human resources management, development, etc., and finally, the processes that take place between people in the social structure of the organization, expressed as a formal or informal interactions, caused by work obligations, on the one hand, and human nature, on the other hand, and that in the broad sense are characterized by values and norms that are accepted, picture 1 [8].

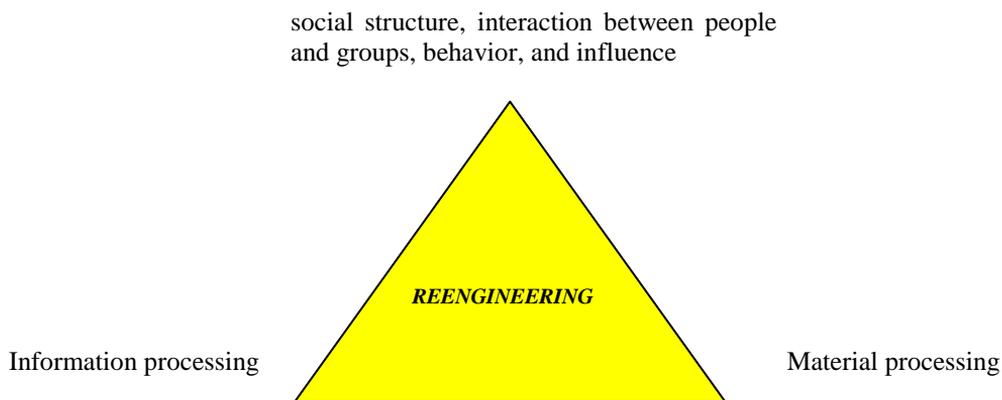


Figure 1 – Structure of the reengineering

Reengineering means simplification of organizational processes, summarizing the activities and creates processes that meaningful, rational, and cost effective. In the process re-engineering "subject" are the contents of the process - activities and group activities, as well as the number and structure of the process, on which the success in creating products and services that meet customers' requirements.

Reengineering necessary promotes a new approach to the work process, affirming its entirety, rather than the dominant fragmentation process on a number of simple tasks.

Basic characteristics of the business process re-engineering (Hammer, Champy, 1993): [7], [2]

- Combining business,
- Natural order of individual stages of the process,
- Designing multiple versions of the process,
- Participation of employees,
- Performing tasks where it is the most appropriate,
- Self-control,
- Hybrid structures of the processes, and
- Changes of key organizational dimensions

A key feature of re-engineering is the combination of the projects, i.e. different jobs in a whole. In this way a possibility of hiring a small number of employees, better use of their time, more efficient coordination and control that is based on an increased level of responsibility and self-control creates. In addition, the combination of jobs allows reducing downtime and eliminates the need of transferring jobs from one person to another. On the other hand, the process of combining work requires specialists with replacement workers whose knowledge are wider, therefore universal [7].

OBJECTIVES OF THE REENGINEERING

The main objective of reengineering is to optimize the efficiency and effectiveness and can be represented by four dimensions that can improve the re-engineering, through satisfying following requirements: [9]

- Reducing costs,
- Improving quality,
- Increase in production, and
- Increase in working speed.

To achieve the defined goals of reengineering it is necessary to change employee behavior, structure and method of the impact on individuals, to develop confidence, better motivation, self-actualization and self-control, to enter new values, new facilities, which, among other things, can be achieved by changing the mental attitude of employees, patterns of thinking, philosophy and habits.

The hardest part includes visible and less visible elements of individual behavior, complex structure of cognitive aspects and situational variables that affect the interaction, attitudes, and values of employees. The second level of the processing is information transmitting. Process of reengineering include the two key dimensions as follows: [3]

- Communication system that allows transfer of information, and
- The content of information

System of communication is coordinated with the state of the process obtained after radical changes in terms of capacity (bandwidth), the method of organization and operation of computer resources and uses a program (software). The information content is adjusted to the requirements process, the needs of individual-level decision-making, and spread through the organizational infrastructure. Information processing requires the use of modern technology, both for internal purposes and for establishing and maintaining relationships of the organization and its environment. The use of modern computer systems is a necessary

condition for improving overall process, starting from the process of defining a new vision, the process of translating the vision into plans, budgets, and operational activities in the production of goods or services for the market.

Defined targets should be stable for a planning horizon, in order to determine the required resources, dynamics, and effects of total spending on investment. Among other things, the basic goals of the organization are starting point to which members of the organization and legitimate "source" of the delegated responsibilities and obligations that derive from the goals. [6]

REENGINEERING PROCESSES

The process is a set of activities that transform certain inputs into certain outputs, i.e. some input values are converted into output using people and tools, Fig.2. [10]

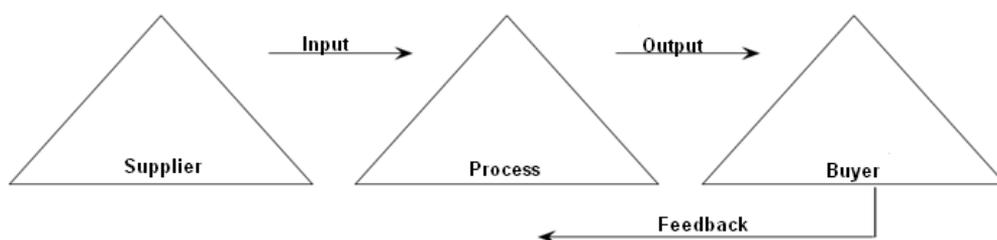


Figure 2 - reengineering process schema

In the literature on this area, one comes to the application of new methods of re-engineering, for example "Business Process Reengineering", "Business Process Management", "Business Process Benchmarking" and so on.

The main reason for sudden and rapid application to numerous areas of human activity, is in its power to bring together, unite and integrate a number of separate activities into a coherent process, which thus provides a better and easier selection of essential business processes (e.g. production, marketing, distribution, communication, etc.), where more attention must be focused. Top management provides the vision and policies (environment) and thus solves many problems, associates provide inventiveness and creativity are those who make realization of the jobs possible, are in the process.

Directing attention to the process would mean that the process of observation applies to the overall company level, where the company can be viewed as a system or network of independent segments that work together to achieve their goals. The company does not aim to conduct market research, management quality, training employees, and the like, but to satisfy the real and current needs of users with its products or services.

Orientation toward managing processes rather than people and facilities is becoming a necessity in order to create conditions for achieving goals. Operations on the principle of information technology (IT) by Hammer and Champy, shows Table 1 [7]

Old rules	Newly created technology	New rules
Information can only come from one place	Distributed databases	Information may also come from as much places as it is necessary.
Only experts can resolve complex tasks	Expert systems	An amateur can do an expert job
The economy has to choose between centralization and decentralization	Telecommunications network	The economy can take advantages of centralization and decentralization contemporary
Managers make all decisions	Decision support	Deciding is a part of each person's work duties
Workers in the field must have an office to send and receive information	Wireless communication and portable computers	The best contact with the prospective buyer is effective contact
Care must be taken about things	Automatic identification and search technology	It is clear where things are
The plans are tested periodically	Online data management	Plans are examined immediately

Table - 1 New information technology by Hammer and Champy

In the literature, one can find different models of the process re-engineering that is recommended for use. Michael Hammer and James Champy proposed re-engineering process model that consists of several phases Fig.3. [7]

The first phase involves the identification process in the organization and processes to create the appropriate maps of the process. In order to implement reengineering is necessary to identify business processes taking place in the organization and whose conducting affects the results of operations.

The second phase of the re-engineering process the selection process will be subject to redesign and change. This phase involves the selection of the essential direction of change, i.e. the selection process should be

subject of re-engineering. In the selection process three criteria is using, importance of the process for achieving competitive advantages, dysfunctional process, and the possibility of achieving positive results in the short term. At this stage of re-engineering, it is necessary to make the selection of process, i.e. focus to the core of the process, faulty processes, and redesigning processes expecting beneficial and fast effects.

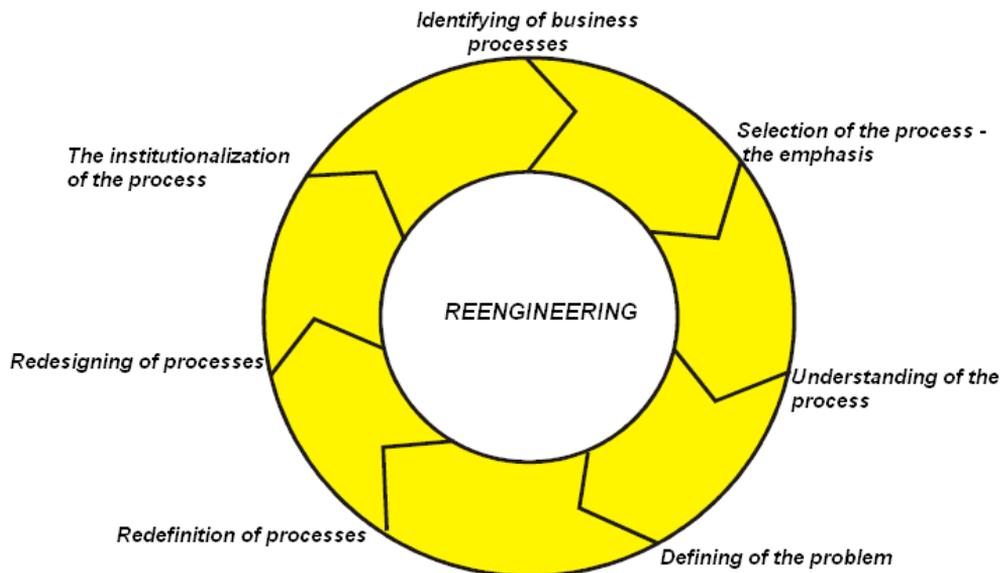


Figure 3 - Stages of reengineering process

The third stage is to understand the process. Success of the reengineering depends on approaching the process. If we analyze the process then we accept the basis on which the process is structured and it is difficult to think over the ways of its change.

The fourth phase defines the problem, it is necessary to identify problems in specific processes that, otherwise, lead to dysfunctional consequences and difficulties within the organization. In this procedure it is necessary to establish which assumption and how affects the appearance of a certain problem.

The fifth stage redefines the process, it is necessary to define the new requirements, as the basis for creating new processes. Assumptions that have caused problems must be replaced with new ones more suitable for carrying out the process without difficulties and dysfunctional effects. In order to redefine the business processes it is useful to engage external consultants, as they are not encumbered by existing routines and experience acquired in the previous assumptions.

The sixth phase of the redesign process involves their structuring on the basis of new assumptions. Structuring involves linking jobs into one job, eliminating unnecessary tasks (activities), determining the order of execution and the creation of multiple versions of individual processes and others.

The seventh phase of the institutionalization implies a radical change of values, structures, and management systems. It implies new forms and processes, new values and interaction - the new material and social order.

The introduction of parallel processes the process re-engineering is strengthening, enhancing safety in meeting commitments, actions and adopted plans, and shortens the completion of planned tasks, eliminate production bottlenecks and achieves full employment of labor involved.

Innovations are the basis for reengineering business processes. After all, every business process improvement involves the use of new knowledge, experiences, and new ideas. For this purpose, it is necessary to constantly learn and use the available knowledge and available resources. Exercise of excellence through the application of innovation makes a

key to progress and success of any organization. Application of advanced technology is the key to technological competence in the market of goods and services. In order to prevent certain errors and omissions it is necessary to develop mechanisms to monitor and control the level of application performance process technologies, inputs and input information and finalization of services and products.

The current situation of our companies requires need to introduce radical changes in all aspects of management, taking into account the application of information technology, and orientation to users of products and services, on the one hand, and a maximum of rational utilization of human resources, on the other side. Today's business is in the same way based on the traditional (industrial) way of doing business and as such, in most cases proved unsatisfactory. The changes require a radical step and the application of re-engineering to existing companies, because they have a significant number of skilled workers and highly trained personnel, who have demonstrated the knowledge and skills throughout the world, but unfortunately not in their "environment" too. It is realistic to expect achieving better results thanks to top managers who will be able to take advantage of human resources. Companies in developed countries are characterized by a great interest in directing the process, as the source of exceptional performance and competitive ability.

TYPES OF RE-ENGINEERING

Depending on the organizational level at which the re-engineering is performed, goals and objectives of redesigning (changing), re-engineering may be at the level of (like 4)

- Companies,
- Process,
- Activities, and
- Social interactions

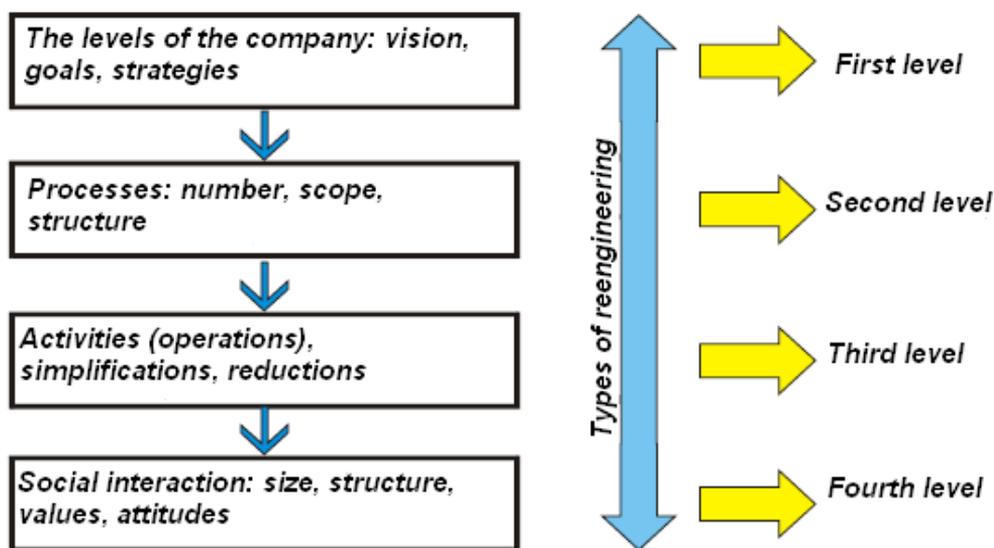


Figure 4 - Types of reengineering process

Reengineering at the enterprise level involves fundamental changes in almost all organizational levels, and primarily involves changes at the highest level. This re-engineering is caused by the needs of company to adapt to specific requirements or, in turn, to position successfully on the market relative to competitors. This type of reengineering is a comprehensive, complex and takes longer time, since all levels and all parts of the organization are subject to radical changes. From an economic standpoint, it is expensive with high costs, and expected high incomes. It is frequently applied in terms of the fall in output and sales, less employment and the difficulties in using existing facilities; when the technology is outdated, etc.

Reengineering at the level of process involves radical changes in specific business processes - in part of matter processing or information processing.

Reengineering at the level of activities within individual processes, includes changes of simplification process implies, reduction of certain expenses and shortening the time necessary to perform certain operations. This type of re-engineering is taking place at the operational level under the control of operational management.

Reengineering of the social structure - the number of employees, type and level of qualification, interaction, values, norms of behavior, etc. is based on complex techniques that enable the development and change of attitudes, a new level of aspiration, new values based on new goals, missions, and strategies.

METHODOLOGY AND CONCEPT OF REENGINEERING

Companies must develop its own model of appropriate management processes for continuous conducting and improving of process, Figure 5 [10]

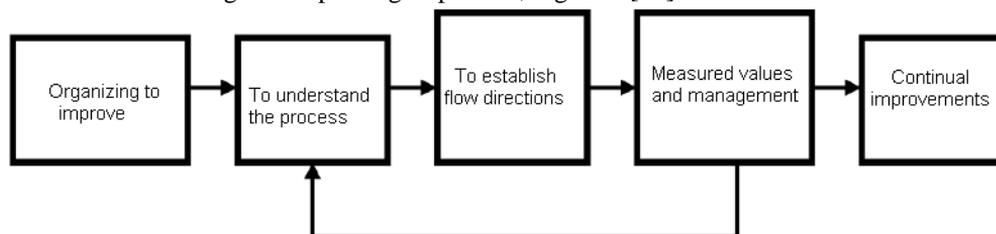


Figure 5 – Harrington's five phases model for process managing

The implementation of reengineering means "distribution" of responsibility, more complete inclusion of employees in the decision of certain decisions related to work tasks and processes to be redesigned effectively. In this way, decision-making is not separated from the process; it is an integral part of the activities of employees. Conveying the rights to decide at lower levels of the organization following is achieving, the unburdening of the management at higher organizational levels of certain decisions, increases the responsibility of the direct perpetrators (holders of the process), the rational use of available time, reducing costs, efficiently carrying out of planned processes are employed motivated to work. From the standpoint of the organization, through reengineering of business processes creates the conditions for efficient work and deciding in which various initiatives and creative capacity of individuals and groups are expressed fully.

In the scope of the reengineering concept, as well as the general concept of change, leaders have a crucial role. They have the task of creating a vision of the organization and recruit

members to follow them and to assist them in implementing change. Based on the specific vision is necessary to define certain objectives, strategies and plans for their achievement.

Holders of the key processes are responsible for the implementation process, monitoring, and correction, if needed. Usually, these are leaders, managers, teams, and consultants. They are members of organizations with special knowledge and skills, individuals with authority and experience in performing certain changes. In addition, it should be a trustworthy person, with charisma and influence the behavior of their followers, with a preference for team work and activities within the approved concept of reengineering. Leaders have a role in the re-engineering process to create a vision, motivate employment, define the key values, and build teams to design and implement radical changes. [7]

Realized performance should be measurable quantitatively and qualitatively expressed. Immeasurable performance really is not possible to display or promote. Measurable statements of individual processes performance are income, costs, satisfaction, adaptability, etc. Measure of the tangible processes is productivity, efficiency, profitability. Measure of the intangible processes is satisfaction, turnover, absenteeism, etc.

EXAMPLES OF SUCCESSFUL IMPLEMENTATION OF REENGINEERING

In addition to numerous companies in the world, reengineering has been applied in the well-known companies such as Chrysler, Boeing, Hewlett-Packard, Kodak, and telephone and telegraph in the United States. These companies have chosen to re-engineer the product development process, given its key role in the production of and response to market demand when it comes to product quality, price, etc. Companies have found that the processes of development lasting a long time and there is delay in responding to the emergence of new products by competitors. To remedy this lack, companies have introduced a computer system for designing products and production management, which led to shortening of the development process for new products for about 50% and a decrease in the total production cost of 15-20%. [11]

RESUME

A concept of reengineering is based on a set of organizational activities i.e. processes that are "intrinsic" dynamics of each structure - the system. In a sense, re-engineering leaves the classical understanding of the process and orients to the integration of different activities in homogeneous processes that are performed by the respective teams.

Most companies, especially companies in countries in transition, should apply reengineering and to change existing making decisions processes to adapt to dynamic changes in their environment. The reengineering process in these countries should not be radical, but focused primarily on improving existing business processes, along with development of information systems to support managers in business decision making.

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