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# Re-engineering as the Process of Business Adaptations

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## ABSTRACT

Re-engineering - is primarily a result of information technology. Due to the method of re-engineering, we can consider the activities of enterprises, highlighting their function. Every company or organization has a plan. About 200 years ago, it was shown that by sharing the work, the person focuses on one thing, and it performs better. Guided by this discovery of Adam Smith, the people for a long time applied the principle of division of labor. Currently, the production cannot be called effective. Highly specialized work superseded the multistage division of labor, which requires the coordination of all phases of the production process. Economic viability and competitiveness of the companies must be based on the adoption of new models of organizations. One of the conditions for success in re-engineering and its implementation is considered to be the drafting of another, already the updated business process with the implementation of a large arsenal of techniques. To perform re-engineering is assigned a person who is the project leader (the company of senior management). Then we formed a team, which includes specialists and experts. Create Committee monitors the implementation of engineering strategy and to monitor the implementation of the project.

**Keywords:** Business, Re-engineering, Information Technology, Innovation Management

**JEL Classifications:** D24, M1, O31

## 1. INTRODUCTION

Re-engineering is a complete rethink and redesign of business processes to achieve with jumps, sharp improvements in major advanced performance of the company, such as cost, quality, service and rates. Re-engineering leads to changes, requiring a fresh start. Despite the experience and practices, replacing with new ideas and solutions suitable for the market today. A very important factor is the demand in view of today's technology capabilities. The term re-engineering appeared in the West in the eighties. Its founders are James Champy and Michael Hamler. They released a book entitled "Re-engineering the Corporation: A manifesto for business revolution." Singling out in this book, such concepts as "customer service," "costs" and "quality."

Theoretical and methodological basis of the research were fundamental works of domestic and foreign scientists in the

field of cluster development of regional economy and strategic management of development of territorially-industrial complexes (Gurieva, 2013). In this paper, as part of a systematic approach, using different methods and techniques of economic research: Methods of economic analysis and synthesis, comparative analysis of statistical data and international comparative assessments.

## 2. DISCUSSIONS

### 2.1. The Process of Entrepreneurship

Re-engineering - a process for remaking entrepreneurship.

The ultimate goal is re-engineering innovation because it affects the process that is associated production of new products and their implementation.

Re-engineering - is the introduction of the latest information technology to achieve new ideas. We must first and foremost focus on the services that are necessary to consumers. Therefore, the development strategy of allowing the use of information technology resources to create and maintain a sustainable competitive edge of the company. As part of the new development plan of the company and how to achieve the desired company image is formed. Next, a model already exists at this stage of the business and describes the efficiency of the enterprise. The next step is a model of the new business plan (Abdikeyev et al., 2006).

There is a work-benefit analysis and a new subject, and the elimination of the old mistakes. Developed a program of training and retraining of specialists in the company, and processed job descriptions, new staff functions are introduced. Further, the new model is tested, then the elements of the new business model, embodied in practice. Very important is the transition from the old to the new. We need to create an environment so that people performing processes are not experienced job stress. The main goals and methods of business re-engineering is a sharp decline in used time, the number of employees and other expenses for the implementation of the production functions. The same operation not only on the present and the future needs of the customer.

First of all, we need to reengineer those companies that are on the verge of competitors the quality of service or because of the price for the goods. In this case the company is facing bankruptcy if it does nothing. The same problems can occur due to changes in the economic environment or a change in customer requirements. The main stages are re-engineering of business processes.

Business process - a set of interrelated activities or tasks designed to create a certain product or service to consumers. As graphic description apply activity flowchart business processes (Figures 1 and 2).

In terms of impact on the organizational structure of distinguished evolutionary and revolutionary business process re-engineering. When the revolutionary re-engineering redesigned all business processes and shifting its organization to a new kind of business. When evolutionary re-engineering optimized internal integration of various business processes, but does not introduce significant changes in the functioning of the organization. When re-engineering carried out either redesign or business process improvement (Table 1).

It is mainly the main principles of business process re-engineering related liability concentration: A number of working procedures together in one. The same delegation capabilities, combined with self-control: Independent artists perform authorization. Possible characteristics of re-engineering process for the main criteria are reflected in the Table 2.

Special attention is paid to the method of re-engineering team building and its interaction with the staff of the organization. Process commands replace the old management structure.

The two types of process commands are used most frequently, depending on the work performed (Shkurkin et al., 2016):

- Team working together unites people of different professions, performing routine and repetitive work, for a long time;
- Team brings people together to solve non-standard and usually difficult task. Teams of this type are created at the time of solving the problem and disbanded at the end of the project. And one employee can simultaneously be a member of multiple teams, distributing his time between several projects.

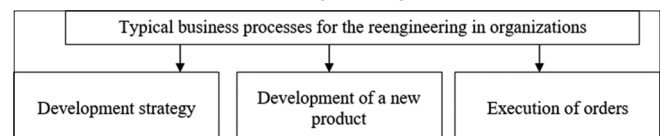
### 2.2. Re-engineering Objectives

The objectives of re-engineering include group joint union notification and reference potential reserves structural subsidiary offices of the organization and appearance of the built-in corporate reference notification constructive order management serving functional real-duration period of time, based on impartial notification of background information about the material and monetary and material flows on all spheres of economic activity of the company, providing a continuous reduction of costs for all and having the flexibility to respond to changing market conditions (Shkurkin et al., 2015; Osadchy and Akhmetshin, 2015).

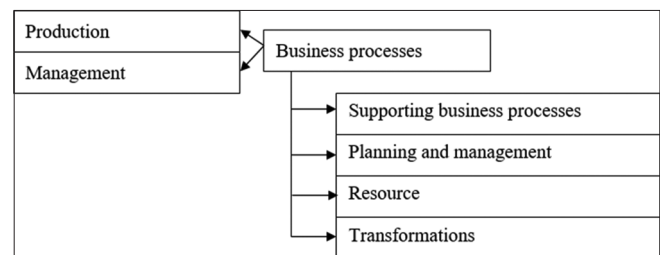
Process re-engineering based hosted on two-basically the main opinion, “the image of the future of the company” and “business model.” The future image of the company - a lightweight image of the original, which reflects the main mostly on its main face and not taking into account the minor details.

Business model - this view is mainly the major economic moves of the formation of company affairs, taken in their assistance, a business-like environment of the company. The models are made,

**Figure 1:** Typical business processes, designed and perfected in the course of re-engineering activities



**Figure 2:** Classification of business processes



**Table 1: The essence of re-engineering**

Type of re-engineering	The situation for the application
Crisis re-engineering	A state of deep crisis, which can be caused by a loss of competitiveness, consumer rejection of the goods
Re-engineering of development	Satisfactory current position when undesirable trends and unfavorable forecasts. Good situation if you want to speed up and increase the gap between competitors

**Table 2: Characteristics of re-engineering on the basic criteria**

Criteria	Re-engineering
The origin of the method	Engineering, consulting practice management
Main idea	A radical rethinking and redesigning business or production and business processes
The principal manager position	Thinking discrete categories, a clear statement of the question, "Why need a change?," Involving staunch supporters of change
The nature of the changes	Deep and comprehensive change process continuity, abrupt changes
Project implementation period	A few years with an emphasis on quick success, measured in quantitative terms
The object changes	The company, in whole or key processes
Goals	The significant and steady increase in profitability (cost-effectiveness)
Type of crisis	The liquidity crisis, the crisis of success
Changes strategy	"Top-down" strategy
Key roles	Leader, re-engineering group, experts
Methodological aspects	The reorganization of the key processes in accordance with the market strategy, adapting organizational structures and job descriptions, changing the value concepts, the introduction of modern information technology, staff development and new methods of remuneration
Strengths sides	The possibility of radical renovation, the chances of an explicit increase profitability, speed changes, the conceptual unity of the events, a significant expansion of the competence of the experts
Weak sides	Instability in the phase change, time constraints and actions in connection with the desire to quickly improve results, low social acceptability

and are calculated using a specially prepared computer software research. One of the paths of formation with an increase in actions management, together form the business models allow to find properties in the main passages of the formation of the main cases. One of the types of paths of formation with increasing activity management, the joint organization of forming entrepreneurial activity, is to give them names that reflect their initial and final state. These items should reflect all those workloads that are produced in the interval between the starting factor and the final end of the process.

The term "establishment" that sounds like a department name, is better to go to the process of formation of cases originating from the time of purchase of the segment with the work piece materials on the length of time of shipment of finished products.

Re-engineering in innovation management effects of innovative process (Bogomolova, 2012) aimed at creating a fresh novelty productive stocks and intervention procedures and their implementation with the incarnation, promotion, diffusion. Since the final scheduled task of re-engineering are the final criteria (i.e., innovation), the re-engineering in more than a narrow understanding of innovation has re-engineering. Re-engineering has engineering and consulting favors the restructuring of business on the basis of manufacturing and with the implementation of the embodiment of innovation. American scientist Hamler, who introduced in science the term re-engineering learning revolution (Chuev et al., 2016; Vasilev et al., 2013; Vasilev and Akhmetshin, 2014).

### 2.3. The Role of Members of Re-engineering Project

First place is a favorite design software re-engineering one of the organization of the supreme leaders of small, who heads a manifestation of re-engineering initiatives. In addition to the organizational commitment, he is responsible for the ideological exculpatory proof software re-engineering plan, the occurrence of joining together the spirit of innovation (Bykovsky, 2013), enthusiasm and responsibility. The leader is obliged to have the highest internal energy.

The second involved a partner located centrally managing committee composed of members of the supreme governing structure of the enterprise, leading re-engineering leader, managers of small strokes of the formation of affairs. Carries out supervisory responsibilities, coordinated the target agreement targets and re-engineering strategy, a coordinated agreement on interest needs of different work teams and resolving conflicts between them. If there is no committee of his duties does the leader of re-engineering.

A special place is small original leader, exercising operational control re-engineering of commercial undertakings as a whole. He often makes little exemplary role-party helping lead assistant leader re-engineering (Volkov and Kozlova, 2015; Zhelezko, 2013; Arkhangelsky, 2006). The functions carried out by them: The emergence and preparation methods and re-engineering of complete sets of tools, training and coordination of the owners of processes, aid in the organization of working teams.

Managers formation process - controlling bosses, some of them are responsible for the modernization and restoration composed of business process. If your organization is not known peculiarities of the business process, then in this case are the active little heads. Manager forms the team for restructuring the business process and guarantee conditions provide all the resources.

He also makes the function of supervision and compliance with the order. In this way, the process manager is a kind of re-engineering the client provided the course of formation of business process. Working re-engineering team - a group of people in the organization, and even external competitors. All of them and will realize just direct labor job re-engineering a process. Determination participants re-engineering activities and their functions are the basis of the effectiveness of the process (Table 3). As we can see, all participants re-engineering are important, but all is dominated by the leader of the project of re-engineering, which is considered the main manager of the company. And of course, a steering committee. Which includes all of the company's management.

**Table 3: Participants re-engineering activities and functions**

Participants	Functions
Project leader - one of the top managers of the company	Lead re-engineering, responsible for the ideological justification of the project, creates a shared spirit of innovation and responsibility
The steering committee - members of senior management, the project leader, process management	Monitors, agree objectives and strategies, the interests of the working teams, solve conflicts
Managers of operational management	Develop methods and re-engineering tools, provide training, coordinate, assist in the formation of teams
Process managers	Develop methods and re-engineering tools, provide training, coordinate, assist in the formation of teams
Working team - company employees and external consultants and developers	Carried out directly by the work of the re-engineering

## 2.4. Conditions and Features of the Successful Re-engineering

Systematic experiments to research study re-engineering actions to date have not been conducted, however, expert judgment pointedly indicate that up to this time, about half, possibly more design software re-engineering fails. With the assigned function to clarify the circumstances of failure and determining criterion is too important for success, we held a special study, which relied on the questioning at the choice of consultants from different firms (large number) who have provided services for the management, notification, reference technologies, re-engineering, the formulation of the business strategy undertakings equipment.

The highest governing composition range must necessarily be convinced that this is really leading the project document will achieve the important end and eventually realize that acquired results will lead the transformation of the structure of the organization.

To ensure satisfy triumph guidance range of composition must be to believe in the reality of the necessary re-engineering conducted a company-wide, and to give the command of the re-engineering team's best efforts.

### 2.4.1. Guide

The project shall be carried out under the management control of the organization head, head of software re-engineering plan, is bound to have great prestige and carry him the obligation to respond (Andersen, 2003). For the triumph of software design principle too tough and skillful management.

Head of software design required to be aware that there will be difficult circumstances, inevitable in the construction of a new organization: He must be aware of the "pressure" of the old order and foundations; to convince their employees that the program is not so much the idea feasible, but also necessary for everyone.

### 2.4.2. Employees

The team performing the software re-engineering plan and controlling his conduct, is too important to the promotion of employee relations, highlighting opportunities and provide adequate fit for the ability to realize the establishment of the air condition of the environment among the business relationship. Employees must learn software design. Which is to be activated. In fact, all employees must learn and consistently implement a new set of behavior patterns.

Based on many years of experience we can say that it is rather easy to explain a new way to work the lower level staff. However, people holding positions of managers, much more difficult to understand the innovations carried out in the company. The group to which you should pay special attention to the specialists-managers of medium level. American researcher Villoh defines three categories of managers of this level:

1. Tigers called young careerists who, while taking part in the program the calculation of re-engineering with enthusiasm, have a line focus to concentrate on his personal problems to the detriment of joining together the designated target software design;
2. Donkeys called the oldest serving employees who have reached the peak of a career, who want peace and stability in the organization; they have every chance to seriously harm the project;
3. Sharks are called servants of workers who did sessions events and annotations to manage the operations of the organization; they often have really real power in the company and have every chance in the creation to create too big snags, sabotaging the real change in the perspective of the company strategy.

It may be noted that the application of RF applied to the re-engineering sufficiently mixed success. Based on experience, we can conclude that the causes of unsatisfactory attempts may be the following features:

Firstly, it is of course a multi-level hierarchy. This happens when leaders do not want to give up their powers and give up power.

Secondly, it is incomplete ownership management technologies (in the marketplace).

Thirdly, it is a serious lack of management accounting and delivered as the current lack of a team that would be able to reverse engineer.

Also, it is often a misconception about the nature of re-engineering. The lack of available automation technology management processes, as commercially available software products due to its high cost cannot yet be purchased by most enterprises. On this basis, we can conclude that re-engineering has proved effective management technology, but only if it was the right introduction. Re-engineering is in classic form for the vast majority of domestic enterprises turned out to be inapplicable.

Process re-engineering of Russian enterprises should follow the introduction of simpler management technologies. To date,



a unified theory of re-engineering does not exist. The one that would adapt to the economic activity and domestic practice. We can say with certainty that a very serious preparation for potential re-engineering is required. The whole process of development, the company starts at the beginning and this is due to the innovation complex.

It is necessary to train employees to new principles of their work, and, of course, economic cooperation, the reorganization of the organizational structure, the establishment of a modern system of accounting, the rejection of obsolete and unproductive forms of work, systematic market research within the marketing organization of the rational movement of material values and cash flows.

Through re-engineering we can get a very interesting experience and natural result. It should be noted that it is very difficult, but quite an interesting process. In the course of its implementation is the work of the whole team. If all workers (especially heads of this project) will lay out the process as much as possible, the work will give excellent results. We can say that in Russia re-engineering needs. In the business field of major changes are needed.

Many companies still need a crisis re-engineering. Be sure to run a pilot project in the sphere of activity in which it can bring success due. Management of the company will be able to estimate with the possible results of applying the methodology to other areas of the organization. Implementation of the reorganization projects of business process leads to significant changes in its practices in the organization.

Therefore, paramount control of the process of change. There are not allowed excessive speed, lack of funding or the inability to take into account the internal resistance to change. The main components are the change management process assessment preparedness for the organization and development of their implementation plan. They should be clearly defined roles for staff involved in the change process. The initiators of the reforms required to have authority to make decisions on changes and implement them. It is very important and the role of people who do not have formal authority in the organization, but they can use their influence in a team to initiate the process of change. Consultants offer for Russian use the following procedure re-engineering building.

We will offer to justify itself in practice the following method using the potential of re-engineering:

1. Specification of the main direction of business development. In this segment, the company clarifies the purposes and principles of its activity, solves the important issues such as the definition of key markets, buyer groups, their basic needs;
2. Determination of the scale, and end the company's development objectives for which the use of analysis tools and simulation, for example, data flow diagrams and methods of comparing the current results with the planned activities for the period after the completion of re-engineering;
3. Planning process of business restructuring, carried out by experts who are working on the design of the individual

processes. At the same goals such as reducing cycle time, optimization control and many other features. Determined by the system evaluation process and monitoring its effectiveness;

4. Definition of the organizational structure and personnel policy. It is necessary to specify the infrastructure to ensure the effective functioning of the new processes. It is necessary to analyze the organizational and staffing implications of the proposed solutions. Very important it is to set the corporate culture of the principles that should form the basis of the new organizational model.

This will help identify the various structural units, working relationships, distribution of powers, will allow to predict the number and types of positions, the required level of qualification of employees and the need for their training. It is the creation of effective workforce planning model (Abutidze, 2013; Kobersy et al., 2015).

Technological support when it is formulated the requirements for functional, technical and operational characteristics of new technologies and assesses their impact on the operation of the enterprise. Based on these technology choices made effective for the organization.

Determination of the physical infrastructure that identifies the characteristics of production areas, equipment rooms are consistent plans and projects and the necessary life support systems.

Implementation of the internal policy of the company and assessment of the impact of existing legislation. Identify areas where, for the implementation of the selected solution requires changes in domestic policy. As a general rule, the need for such change is detected at earlier stages of the restructuring of the business and whether the change is necessary as the policy or whether to build new processes on the basis of already be used to determine possible existing.

Resource mobilization for the implementation of business renewal program is ensured when planning new processes for the most rapid and effective response. It produced the final calculation of cash costs and assess the situation as a whole. The advantages and risks that are connected with business decisions. To test the effectiveness of the proposed recommendations of new business processes need to carry out a pilot project. It is possible to obtain quick results with minimal resource mobilization.

The main role is played by the analysis of the work done. The package includes:

1. Analysis of strengths and weaknesses; generalization of the results; identify missed opportunities; identify the most effective actions. Among the most important approaches to be noted here.
2. Analysis and ranking of the totality of external control problems.
3. Development and implementation of solutions schedule, network interaction models collective departments, divisions, groups and individuals involved in the solution of a problem.
4. Application of the situational approach, where the totality

of circumstances affecting the activity of the company at a particular time, singled out the possibilities and techniques, the use of which is capable of in this particular situation the most actively contribute to achieving these goals.

- Accounting for the full role of the human factor as a key resource, to be used where necessary to form a new relationship between the company and the people working on it.

In order to realize the full potential re-engineering manager aims to focus in particular on the fundamental increase communication quality, penetrating the organization in all directions, ensuring the participation of each department of each employee in the work of the whole team at all stages, as a prerequisite for the consistency of modern work, the formation of a team of such psychological climate that would help disclose the ability to work, as well as a firm culture that rallied the staff to orient them to achieve the common goals of the enterprise.

The control is designed to act as a generator of innovation in the enterprise to ensure the growth of business efficiency and create conditions of intense relationships, close cooperation of employees in the development and implementation of innovations. It is particularly important to ensure staff awareness about the processes occurring in the enterprise.

One of the key management capabilities - the organization of such an interaction of all unit groups, all the employees to get a multiplier effect, which could not get each one individually, but actually do it by adding the best.

Involve all employees to the company's management is one of the main tools to increase the efficiency of its marketing activities. The aim of the external manager is the search for and introduction of such forms and methods that would allow to use this potential to the fullest extent. Identification and registration of collective opinion about the specific actions of the control is particularly important. The indisputable fact today is that the effectiveness of management of the company largely depends on the style of work of the manager. Democratic management style is here, as a rule, the most appropriate, helping to form and maintain the collective conscious labor discipline. The control is designed to create an enterprise system of strict control over the implementation of the decisions taken, the implementation plans and ensure executive discipline. This is important in particular in order to provide feedback to correct past decisions and plans.

### 3. CONCLUSIONS

It can be summed up by the fact that engineering and re-engineering of enterprise are logistics management methods of the company, namely, methods such areas as strategic management and organizational development of the company. This strategic management promotes major logistical problems the company agreed with the marketing and production strategies. Organizational development is seen as a multi-level and consistent strategy for achieving the various medium- and long-term goals. As part of the organizational development emit such a direction as organizational engineering.

Used engineering often to the company could successfully operate in the present conditions and on time and successfully adapt to the changing environment. Some see re-engineering as a special case of engineering. Other isolated re-engineering as a separate approach, re-engineering acts as a business restructuring. But in general we can say that re-engineering is the fundamental rethinking and radical restructuring process in order to achieve simultaneous and significant improvement in key performance indicators such as cost, quality and speed of execution. Re-engineering - is a tool specifically designed to help in circumstances requiring major changes to ensure that the processes used to improve the scheme cannot engineering logistics management firm.

The concepts of engineering and re-engineering are widely used all over the world, not only for high incomes (the performers), but also to produce, above all competitive advantages firm customer service. Engineering companies provide services to professionals that the state does not need any maintenance or expensive. The service re-engineering will help identify existing problems within the company, and to significantly reduce corporate costs, deciding them.

The introduction of Russian enterprises re-engineering can be successful. However, carrying out re-engineering, it is worth considering a number of factors and not spare the time, money and effort on his holding. This process should be broad and the changes that it entails, must be entered, before preparing this staff.

## 4. ACKNOWLEDGMENT

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