Technologies and problems of reengineering of the business processes of company

Dmitriy Silka

1National Research Moscow State University of Civil Engineering, 26, Yaroslavskoye shosse, Moscow, 129337, Russia

E-mail: w220@yandex.ru

Abstract. Management of the combination of business processes is a modern approach in the field of business management. Together with a lot of management approaches business processes allow us to identify all the resultant actions. Article reveals the modern view on the essence of business processes as well as the general approaches of their allocation. Principles of construction and business process re-engineering are proposed. Recommendations on how to perform re-engineering under high cyclic dynamics of business activity are provided.

1. Introduction

Development of modern economy is performed in undulating manner. Firstly, the accumulation of a certain growth of the potential is observed, then it begins to be used, and at the appearance of imbalances, this growth refers to the decline. Analysis of causes and problems that led to impossibility to evolve economic systems at the same rates becomes popular. Further, search of the new approaches for managing the company and field of activity in general has no alternatives. There is no doubt that in a series of economic cycles of functions, methods of management are not exposed to the rapid changes. But different economic circumstances there is a strengthening of various approaches of the performance of existing management and other functions. Due to the fact that in order to get growth of opportunities when changing economic cycle, it is necessary to review management manners, it becomes obvious, that painless transfer to new business-decisions requires an application of an offbeat approaches which strongly influences on the result. Considering that modern world changes with accelerating rate [1], the development of methodological regulations and recommendations of effective restructuring, re-engineering of the business processes is very important [2].

2. Materials and Methods

Business process management allows to create a single management mechanism and to ensure the achievement of the set objectives of the control unit. In the most common form, management is considered and performed through the set of functions and hierarchical levels of the company. Although functional management is actively used, it was established a long ago that it has a lot of complexities. Various functional structures often have no interest in what is not related to them directly. Quite often it is necessary to observe how the accounts department is interested in receipt of production and financial information, and it doesn't care about all factors which make the situation in the company such as it is. Situation when workers will behave as if they have nothing common can be created. Also there may be internal competition, which in the end leads to more harm than good. At that, rigid functional dependency and hierarchy gives rise to bureaucratic procedures and significantly slows down the...
process of effective decision making. Because flows of information increasingly are unidirectional and feedback mechanism is not the norm at all.

Various researchers and practitioners, searching for solutions to the problems and tasks of effective management of the companies considering many possible organizational and economic schemes and models, have turned to a new perspective of the theory a few decades ago. Its essence is to identify the set of business processes of the company which provide the solution of complex of the productions problems in a cross-cutting way. In particular, they include production, personnel, marketing, and many others. Gradually and not quickly, but many managers had to admit that they spend extensive time and resources to manage their functional hierarchy. For the majority of administrative staff this is the only purpose of their working career. Researchers began to note that the work does not move up and down along a functional hierarchy, it is performed through the organization as a set of business processes which are not managed in the most of organizations and nobody responds for them! In this regard, in the form of perspective direction it was proposed to allocate business processes. Business processes are the work flow, which goes from one worker to another, and in the larger examples, from one division or department to another [3]. Processes can be described at different levels, but they always have beginning, certain number of steps in the middle, clearly defined end. There is no standard list of processes and organizations should develop their own not least of all, because it helps to understand their own situation more deeply, when it is described in terms of processes. Connections and relationships, which are ignored or not realized suddenly become the key of effective functioning of the whole company, not to mention processes to which they are related to. There are no hard and simple rules as to how wide or narrow the processes should be described, and organizations come to the different views even when processes they describe are similar. In practice, this does not matter upon condition that described processes are complete and intact work flows and no steps are skipped. It can also be applied to the description of sub processes, which should naturally be split on the big processes. The essence of business processes is shown in the Fig. 1.

![Figure 1. Scheme of business processes.](image)

Theoretically it is known that for every single process these borders are initial, or primary, entrances, with which it starts. These inputs are opened by the primary suppliers of process. Process ends with the release, which produces the result for primary clients.

Considering that a certain experience of business process management [4] is already formed in the present moment, let's allocate the tasks which must be solved at this management. Many organizational problems have cross-functional nature, so the question arises: how is it possible to apply concept of the business concepts in practice to solve old controversies of the functional management? There are several options and one of the most popular approaches is the application of the concept of business processes, which is the cross-functional problem solving. It implies the usage of business processes for identification of the relevant issues on which the cross-functional group will work. It can be done with different degrees of formalization.

Approaches to the optimization of business processes are realized upon detection of deficiencies and
bottlenecks in the management. Usually, the following four approaches are considered among the main ones:

1) method of rapid analysis of the solution (FAST);
2) benchmarking of the process;
3) redesign of the process;
4) re-engineering of the process.

In the first case the optimization is performed through the working group, which makes fast decisions in relation to the method of solving the problem.

In the second case, methods of organization of similar processes in other companies are investigated and opportunities to improve certain aspects of the process are identified.

In the third case, targeted actions on the process improvement as a whole are performed. At that, there is a set of known simplifying resources.

Finally, in the fourth case, in fact the development of the new process occurs. This is the most radical approach.

Developing the problem, which was noted at the beginning of the article that in the cycling conditions companies often have to radically revise the methods of management, let's note the following. Periodic re-engineering of processes or development of the new processes is an invariant method of continuation of effective functioning. Accordingly, identification of such processes, which are priority in part of their processing is a separate task. But the technology of re-engineering realization contains a lot of questions.

Re-engineering of the business processes as the most crucial step in improvement of business is the innovation process. The purpose of such work including reduction of costs and duration of the cycle, and shortage of different management and performance errors. According to investigations [5], re-engineering is a relatively painless process if it affects from 5 to 20% of the processes of the company. Moreover, experts note that if the question goes in relation to more than 20% of business processes, it should cause concern and doubts that the company will remain the order of business activity. Or this situation indicates very poor situation of the company.

According to settled norms [6], re-engineering of business processes is based on the following principles.

1. Minimization of workers involved of process during its functioning. The fewer workers getting enough for the business process, the better manageability, lower labor costs, and others. In a sense, there can be seen a contradiction of specialization.

2. Customer of the process is oriented on the implementation of this process. It is implied that the part of the work in particular process is performed by its customer, thereby allowing to reduce overall labor costs.

3. Communication with suppliers, as if they are the part of the company. At re-engineering of the business process it is necessary to strive that external suppliers participated in the work as far as possible.

4. Creation of multiple versions of complex processes. It allows to choose the best variant among the alternatives.

5. Reducing the number of entries in the processes. It is necessary to achieve the reducing of quantity of different comparisons, reviews and specifications of the input data.

6. Saving of decentralization of departments at centralization of the information exchange. It allows to distinguish the responsibility, while providing effective communication.

If the number of business processes which require reworking is within the limits shown above, then the following six shown principles is quite sufficient. But considering that in today's business world there is an acceleration of communications, the emergence of technologies that radically change understanding of separate business processes, novel rates of appearance of new products, works and services, then the whole problem of re-engineering takes a new look. Principles of re-engineering subject to the review at the first time. Further the whole process of re-engineering.

In addition to the principles, let's indicate that the reduction of workers in the process, accompanied by decreasing of their level of specialization looks different now. It is necessary not to shift the functions of separate workers on another one, but to increase the number of automated solutions which can
perform certain tasks autonomously. For example, customer self-service machines, automatic transport search systems for logistics, various robotics and 3D printing, etc. These areas are developing very fast now.

In addition to the re-engineering process, let's note that it may not be sufficient for the company to hold about 20% of re-engineering processes. The most of them will be caused not by the backwardness of the company management system but by the rapid development of the business environment, considering explosive growth of various innovations in general. So, you should be ready that re-engineering of business processes will affect a very large field of work of the company. In this case the problem is that the re-engineering will lead to a pause at the company. In order to perform business processes re-engineering drastically, there should be excluded the suspension of works at the company. This can be achieved as follows.

1. To withdraw part of works on outsourcing basis temporarily.
2. To identify areas where it is possible to realize reduction in the number of workers within the existing processes and begin the business processes re-engineering just in these areas.
3. To create alongside with current department new department or unit, using a new type of business processes. Then to eliminate the old department [7, 8].

3. Results

As the results which are offered to obtain in the result of identification of the modern business processes re-engineering problems and rapid re-engineering in a relatively large amount is increasing of the adaptive qualities of company to the conditions of the cyclical changes in business activity. Moreover, a sign of new business processes is preservation of the level of specialization of workers during the process of consolidating individual specialized works for automated systems.

4. Conclusions

Debating point of the solution of contemporary problems of adaptation of the companies to cyclical dynamics of business activity conditions is opportunity of maintaining the necessary level of specialization of the company. It is known that modern business world is developing on the principles of constant gain of specialization that were identified a long ago. In this regard, the most important condition for effective business process re-engineering is securing of increasing level of specialization of activities. Contemporary issues, challenges and technologies of business processes re-engineering are discovering the necessity of implementation of the ambitious programs of re-engineering. They are associated with necessity of processing in relation with a big number of business processes of the company and with necessity to prevent interruptions of activities of the company. In this regard, the article shows the specified principles of re-engineering of the business processes, which are designed to maintain and strengthen the level of specialization of individual fields of the activity of the company and thereby increase its ability to compete.

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