

UDC 65.011.8

ANALYSIS OF THE APPROACHES TO BUSINESS PROCESSES IMPROVEMENT AND IMPLEMENTATION

Yangyozov P., Postgraduate student
Dimitrov Iv.,
University "Prof. Ph.d. Assen Zlatarov" Burgas

Выяснены процессы в производственном цикле. Использован анализ деловых циклов за тремя стадиями. Проанализированы зарубежные теоретические конструкции относительно деловых циклов.

Ключевые слова: деловые циклы, эволюционный подход, матрица, революционный подход.

Abstract: *In the present research, the second and the third phase of business processes design, improvement and implementation, are presented. Described in detail are the four aspects of processes improvement. In the third phase, the approaches to implementation (evolutionary and revolutionary) are reviewed. Also the peculiarities and the differences of the various approaches are reviewed.*

Key words: *business process, process improvement, process implementation, evolutionary implementation, revolutionary implementation.*

Problem statement. The production cycle in each organization is related to the flow of various processes, activities and operations. The improvement and optimization of the business processes is vital for maintaining a high level of competitiveness. Process design consists of three main phases (stages): identification and analysis; improvement and implementation. In the present research we shall review the second and the third phases of design, i.e. "improvement and implementation" of the process. In the "improvement" phase real actions of transformation from the desired to the factual process are carried out. In the final third phase approaches and techniques are applied for most unimpeded and economically efficient implementation of the improved process.

The research objective. The objective of the present article is to analyze the approaches applied within the "improvement and implementation" stages of the business processes.

Exposition. Process Improvement Phase. The first phase of the design consists of structural representation of the factual processes. It is carried out through their description, as well as revealing of the connections between them and the used resources existing in the entire process chain from the input to the output.

The accent in the second phase (process improvement) is aimed at achievement of the set forth design goals. The main task is the visualized configuration of the process from the first phase to be transformed into the desired configuration through realization of modifications in the following four aspects: improvement of the process logic; spatial improvement; quantitative and time improvement [3],[9],[1],[14]. As a result thereof, the designed process shall be performed under a new, improved method.

There are two approaches for the performance of the second phase of processes design: a single-criterion and multi-criteria improvement. With the single-criterion improvement, the process is optimized according to one of the four criteria and the rest ones are ignored. The choice of a criterion of improvement is determined by the existing company strategy. The multi-criteria improvement is carried out with the performance of optimization under all criteria.

Improvement of the process logic

In order to improve the logic of the processes, it is necessary to make a critical review of the logic sequence of the individual processes and activities. The logic structure may be studied, on the one hand, through the existing job descriptions for the individual work stations and their compliance with the "sound mind". On the other hand, with traditional and complex processes, one could use the "reengineering" approach. Thereby, an ideal process is designed, which is mentally severed from the factual one. The sole requirement is to have one and the same initial and final point of the process chain with the factual and the ideal processes. After that, juxtaposition is made between the results achieved by the factual and the ideal concepts and the potential for process improvement is determined. The detailed presentation of the factual process allows for the modification of the arrangement of its separate components in order of their implementation [1]. Furthermore, the reengineering approach enables the application of an additional aspect for improvement, which actually represents a parallel alignment during the performance of the processes. Thereby, the time of process chain performance is shortened and the productivity is enhanced. A shortcoming is the increased need of communication and growth of the running information flows.

Process spatial improvement

The spatial improvement is aimed at the local arrangement of the separate process components. Subject of improvement is the place of the factual performance of the process. Upon expansion of the company structures, worsening of the spatial organization in the main and auxiliary units is observed. The main units are directly servicing the production and the supporting – indirectly [16]. The spatial disorganization finds expression in a

deviation of the factual from the planned layout of the process. The spatial detachment of the individual components of the processes, sub-processes and activities leads to an artificial increase of the unwanted connections. They, on their part, increase the problems occurrence potential. The basic task of the processes spatial improvement is the logic structure and the flow orientation of the studied process to be recovered.

Process quantitative improvement

The main characteristic of the process quantitative improvement is the removal of its inefficient components. It is expressed through the physical removal of sub-processes or activities from the process structure. This is done in order to remove the repeating and non-value added components. As a result thereof, the logic of the process is recovered, which secures its unhindered running.

One of the options of inefficient component removal from the process chain is “processes outsourcing”. Outsourcing is understood as spatial configuration of a process beyond the company borders. It could be accomplished as a result of performing “make or buy” analysis. Thereby, the efficiency of one’s own and someone else’s production is checked. In case of available external supplier of a product or a service, “outsourcing of processes” producing that product/service could be performed. With outsourcing, besides the efficiency, it is necessary to assess also the potential dependence on the suppliers. On the one hand, through outsourcing combined with business process reengineering one could achieve temporary reduction of costs (personnel and stocks layoff)[1]. On the other hand, upon continuous improvement of its “know-how”, the supplier can place the organization under dependence.

Process time improvement

The essence of the time improvement of the processes represents reduction or extension of the running time of a process. The underlying idea of that aspect of improvement is that the speed of each process depends on the running speed of its slowest component. For that purpose, analysing of the entire process chain is needed. One should also take into consideration the fact that for each activity certain time is needed, during which the transformation of the inputs into outputs is performed. In that way the slowest component in the chain can be found out, which will become a subject of time improvement? Through acceleration of the running of each process component of a chain, one can achieve sustainable improvement of the entire process duration. Should separate running faster components be available, they can be slowed down in view of synchronizing them with the entire process chain’s rhythm.

It could be found out from the performed time analysis that significant financial and labour resources are needed for the improvement of the entire process. The positive effect of the processes time improvement is that it results in uniform load on the resources within the production process.

Process Implementation Phase. The process implementation is the last phase of processes design. Analysis and identification of the processes have been done, the critical processes and the connections between them have been defined in compliance with the four aspects of the improvement [8]. The realization of the plan concept is commenced in the third phase.

The literature indicates two main approaches for the designed process implementation: evolutionary and revolutionary. There exists also a third approach, which is combining the positive and avoiding the adverse characteristics of the aforementioned two [6].

Evolutionary approach

Upon the application of the evolutionary approach, there are two ways of performance – progressive and retrograde. The essence of the main idea with the evolutionary progressive process implementation is that the improvements are generated and realized by the personnel. The direction of implementation is ascending: from the lowest to the highest level. That way, the changes are perceived and endured more easily by the personnel [7]. On the other hand, the retrograde process implementation requires continuous training of the personnel. The improvements are generated by the management and realized by the personnel. That way of process implementation is opposite to the progressive one.

Revolutionary approach

The revolutionary approach is related to the idea that in case of available adverse external effects (crises), undertaking of radical changes in the processes structure is needed. With that approach, very often the change comes as a response to occurring adverse changes in the environment or internal problems of the organization. The goal is a rational approach to be used upon the implementation [15, p.39]. With the revolutionary approach, the implementation is managed by the executives and is limited in time.

The advantages of the evolutionary over the revolutionary process implementation consists in: more secure success of the evolutionary events, since the period of planning and realization of the events is relatively shorter; active assistance by the personnel, since the evolutionary process implementation resembles to a large extent the human thinking (figure 1)[12].

For the appropriate process implementation, besides the approach (evolutionary or revolutionary), it is necessary to determine also the scope of performance of the processes themselves. It is important to be aware of the distribution of the implemented process in the organization. For instance, upon improvement of one business process, connecting direct and indirect fields, a change is needed as in the production, as well as in the organizational structure of the company. The restructuring shall result in removal of the connections between the processes and the unification of the individual process tasks into a united task.

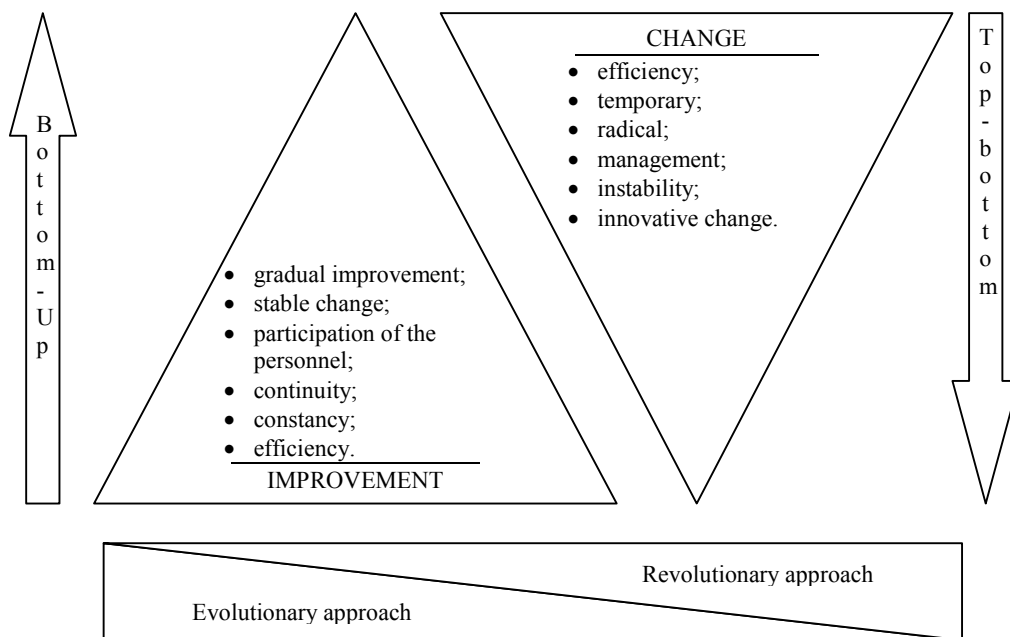


Figure 1. Difference between evolutionary and revolutionary implementation

After the implementation of the improved processes and the restructuring of the organizational structures, the possible types of organizations are: functional; process, matrix, as a combination of the characteristics of them both.

Provided that the organizational units are grouped by functional characteristics, functional units are set up and a functional organizational structure is formed. The functional principle reflects the specialization of the employees in certain activities (Figure 2) [10].

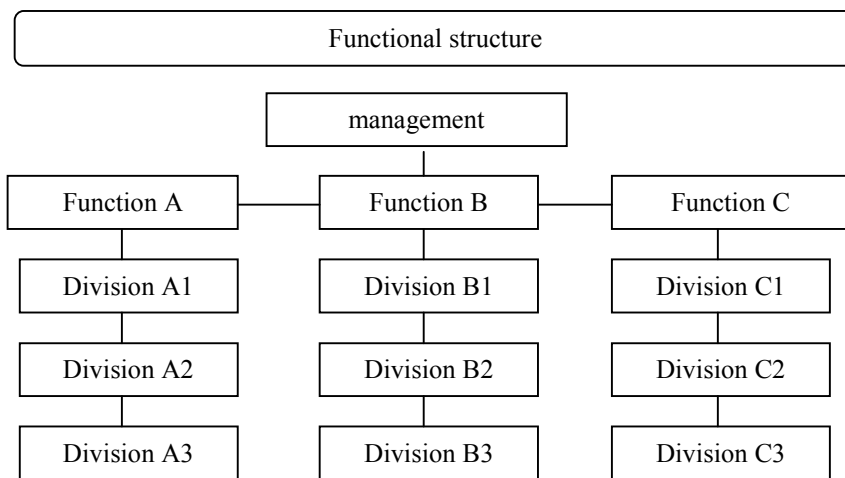


Figure 2. Functional structure

The process structure is characterized by integration of functions within the processes (Figure 3). The organization has been built by an arranged aggregate of processes. With the process structure, the rule is valid that instead of “the process to follow the structure”, here “the structure is following the process”. The vertical company structures become dependent variables of the processes passing through the individual functions [13]. The main advantage of the process structure is in the customer driven. Furthermore, the processes running time is shortened; the connections between the individual processes and the information exchange problems are decreased. As a whole, the corporate complexity is reduced.

The matrix organization is combining functional and process characteristics (Figure 4). The functional characteristics correspond to the organizational functions and the process dimensions characterize the organization in horizontal aspect. The main processes and functions are distributed through a matrix form. On that basis, points of contact are formed and an increased need of coordination and harmonization emerges. There exists also double responsibility. Besides the increase in complexity, which contradicts to the main notion of “process”, another shortcoming is the interdependence of the resources. The advantage of the interaction of the

process structure and the functional structure is the increase of cooperation and substantiation of the problems from the various positions' point of view [5]. The various positions are obtained through the division of tasks and the means of their performance on one work station and form the smallest organizational unit [4]. The functional-process matrix structure is suitable, notwithstanding its flaws, for enterprises characterized with high complexity and dynamics [2].

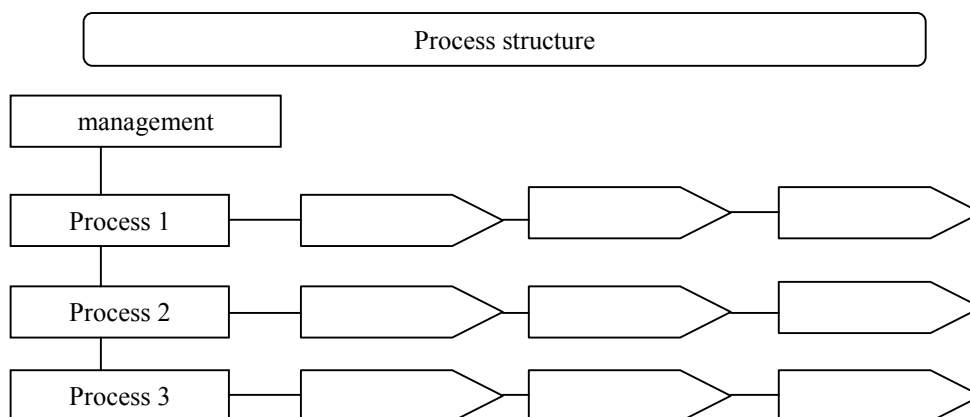


Figure 3. Process structure

Conclusion. The process design ends with the phases “improvement” and “implementation”. In the second phase of the design, we have presented the four aspects of processes improvement known in the literature and two approaches of performance of the improvement. The advantages of the multi-criteria improvement application are related to: shortening the running time of processes and increase of their productivity; reduction of costs related to the availability of inefficient processes, as well as achievement of uniform load on the production facilities. The shortcomings are related to the increased need of communication and availability of significant financial and labour resource. On the other hand, the single-criterion improvement does not require big financial and labour expenses. Its main shortcoming is that the optimization is not directed towards overall process improvement, but towards one of the four aspects.

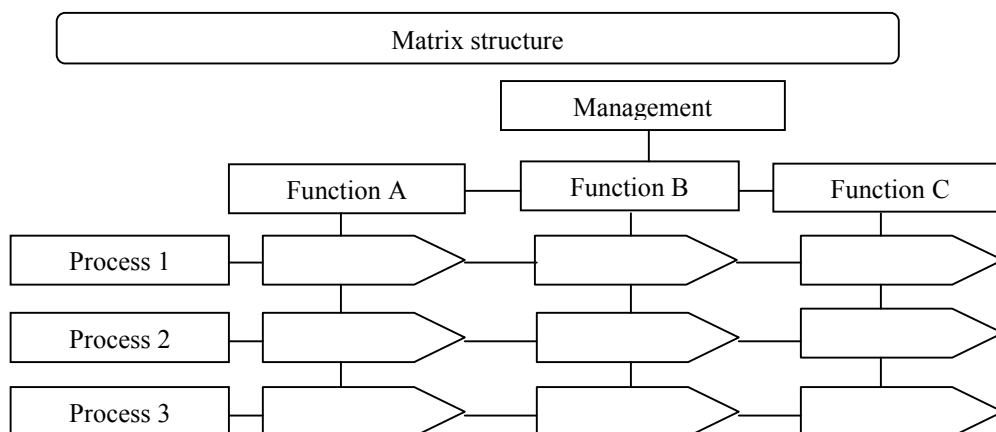


Figure 4. Matrix structure

In the third phase, the revolutionary and the evolutionary approach to process implementation have been described, as well as their varieties. The evolutionary implementation is characterized by high security and help on the part of the personnel for the applied measures, while the revolutionary one is of temporary nature and unstable. Also the possible organizational structures after the application of the process design events have been presented.

The detailed knowledge of the methods used in the second and the third phases of processes design, as well as their positive and negative characteristics, is the keystone for the achievement of overall optimization of the business processes in the organization.

References

1. Angelov, K. Business Process Reengineering, Technical University of Sofia, Sofia, 2008.
2. Bleicher, K. Organisation, Strategien – Strukturen – Kulturen, Gabler Verlag, Wiesbaden, 1991.

3. Buchholz, W. Inhaltliche und formale Gestaltungsaspekte der Prozeßorganisation, Gießen, Justus-Liebig-Universität, 1994.
4. Bühner, R. Betriebswirtschaftliche Organisationslehre, 10. Auflage, Oldenbourg Verlag, München, 2004.
5. Frese, E. Grundlagen der Organisation: Konzept – Prinzipien – Struktur, 7. Auflage, Gabler Verlag, Wiesbaden, 1998.
6. Hentze, J., Brose, P., Kammel, A. Unternehmensplanung, 2. Auflage, Haupt Verlag, Bern, 1993.
7. Hopfenbeck, W. Allgemeine Betriebswirtschafts- und Managementlehre, 14. Auflage, Verlag Moderne Industrie, Deutschland, 2002.
8. Klepzig, H.-J. Schmidt, K.-J. Prozeßmanagement mit System, Unternehmensabläufe konsequent optimieren, Gabler Verlag, Wiesbaden, 1997.
9. Krüger, W. Organisation der Unternehmung, 2. Auflage, W. Kohlhammer Verlag, Stuttgart, 1993.
10. Laux, H., Liermann, F. Grundlagen der Organisation, 6. Auflage, Springer Verlag, Berlin, 2005.
11. Lohoff, P. Lohoff, H.-G. Verwaltung im Visier: Optimierung der Büro- und Dienstleistungsprozesse; In: Zeitschrift für Führung und Organisation, Band 62, Nr.4, S 248 – 254, 1993.
12. Mertins, K. Rabe, M. Kontinuierliche Unternehmensentwicklung – Evolution und Revolution, In: ZWF, Band 91, Nr.5, S. 192-194, Carl Hanser Verlag, München, 1996.
13. Osterloh, M., Frost, J. Prozeßmanagement als Kernkompetenz: Wie Sie Business Reengineering strategisch nutzen können, Gabler Verlag, Wiesbaden, 1996.
14. Schmidt, G. Methoden und Techniken der Organisation, 12. Auflage, Schmidt Verlag, Gießen, 2001.
15. Servatius, H.-G. Reengineering-Programme umsetzen: Von erstarrten Strukturen zu fließenden Prozessen, Stuttgart, Schaffer Poeschel Verlag, 1994.
16. Thomas, W., Hemmers, K.-H. Zeit- und Kapazitätsplanung in indirekten Bereichen; In: Fortschrittliche Betriebsführung und industrielle Logistik, Nr.6, 1981.