Abstract: The article highlights the aspects of organizational process redesign in research innovation activity in educational establishments and research.

Need to redesign is supported by: integration issues in European research programs and exploitation of research results at the level of applied. Organizational process redesign in research innovation activity seeks major improvements on time, cost, quality, methods of implementation and technology transfer. The article highlights the role of competitive analysis in decision making in research and innovation. Competitive analysis are developed in accordance with multidimensional diagnosis. Benchmarking shows the close link between the concept of reengineering and Total Quality Management concept. Performance evaluation of research innovation means to assess efficiency of this activity. In this sense indicators should be indicators of process and no input/output.

Key words: organizational process redesign research innovation activity reengineering

1. INTRODUCTION

In the context of a globalized world economy and of the transition to the informational society, the comparative study respective the re-engineering was included in the arsenal of the biggest companies of the world, fact demonstrated by the statistical data of the American company “Ernst and Young”, that performs research in the field of the inter-organisational processes: the greatest banks of North America have allocated in the last period about 3 billion dollars for the implementation of the re-engineering in branches, while in the period 2004-2005, the USA government conceived more than 200 re-engineering projects. [1]

Some researchers prefer the term of business re-engineering, while some other researchers are disposed to talk about this phenomenon only in strict connection with business processes, i.e. they utilize the term of business-process reengineering (BPR).

Regarded as a fundamental concept, the re-engineering supposes the complete re-organisation of the work process and the division of the charges in order to reduce the time and the effort.

M. Hammer and J. Champy, in the work „Reengineering of the corporation: manifest of the revolution in business” underlines that the reengineering supposes the fundamental re-interpretation and re-designing of the business – processes of the actual companies for the considerable improvement of the main indicators of their activity: value, quality, services and rhythm. [4]

Studying the causes and circumstances that conditioned the inefficiency of the management traditional methods and starting from a new vision on the business, they spotlighted that the passage to the modern technologies imposes a study of the business-processes in their assembly, not only as separate business-functions. [5]

Reengineering imposes the transformation of the organisational structures in dynamic economic unities, competitive and organically integrates in the business environment specific to a world-wide market economy. [2]

In the last two decades, “CCS”, that means clients, competition and radical changes, created a new world for business, and now it becomes more and more clear that the organisations designed to work in a certain environment cannot be used to activate successfully in another environment.
2. RE-DESIGNING THE ORGANISATIONAL PROCESSES – PART OF THE INNOVATING SYSTEM

Re-designing the organisational processes contains a strong innovative side. Capitalizing the cultural differences between the members of a team by communication remarkable results can be reached. This way, the intense communication between the members of a team is considered an obvious aspect. By the communication of the ideas, opinions, the improvement of a product is reached or even new products are created. A flexible organisational structure, with a high level of freedom and risks taking, is usually a supporter of the innovation. Certain researchers sustain that the excessive formalization can be detrimental to the innovation. Nevertheless, the join between the strictness and ideas freedom is hard to be obtained, because concessions are necessary in order to observe a certain plan with certain actions and to let time and place also for exploring and creation of new ideas and solutions.

The orientations drafted by Ojasalo (2008) for those who manage the innovation process are: [9]

1- The leaders of an organisational structure have to sustain the innovation as lifestyle, by their example, by their words as well as by their actions;
2- The organizational structure has to keep close to its clients, first in order to face their expressed needs, but especially in order to elaborate what they want, in the future, starting from the preferences expressed by the clients them-selves;
3- An internal procedure must exist in order to keep track of all innovating projects, for a continuous re-consideration to simultaneous pursuit of the activity on all fronts but remaining coherent and compatible;
4- An innovating culture supposes freedom in action, substantial resources for the education at all levels in the company in what concerns the new technologies, as well as the utilization of small teams of employees that possess many competences;
5- In order to sustain an innovating culture it is important that the employees who innovate successfully are rewarded and recognized by the other employees.

The organizational structure that understands how to create value both for their clients and for itself can change the fundaments of the competition in its field of activity. By the creation of efficient business systems that have in view the supply of value on a new market, the organizational structures not only re-define the value but even block the competitors, who are not capable to reproduce the business efficient model (Johnston).

The orientation toward the market has a significant positive influence on the success and by consequence it is a crucial element of innovation management.

The organizational structures have to detain a “desire” in innovating sustained by vision and management in concordance with an accent on the exploratory thinking both in products and in organisation. Structures have to provide equilibrium between the mechanistic approaches, in combination with a creative climate of working. Many times, innovation must be promoted or protected by key-persons (Zika-Viktorsson, 2009). Innovation has to be a collective effort by working in an efficient team, with attentively selected members, based on communication extended at internal and external level, as well as with a most important implication in the innovation domain. [10] High implication means that every person is responsible to take part in continuous improvements and ensuring individual development.

The innovating system represents a set of interconnected decision factors that forms a system whose performances are determined both by the individual performances of each actor and of the modality of their action, as elements of a collective system (Edquist 2005). [3]

3. STUDY OF COMPETITIVENESS – CONNECTION BETWEEN REENGINEERING AND THE SYSTEM OF TOTAL QUALITY

A study of competitiveness useful for taking strategic decisions supposes a tri-dimensional diagnosis that takes into consideration the economic environment and also the competition factors. The main dimensions are:

- Situation of the field we are activating in;
- Situation of the competition in that field, respectively the study of the competition forces and of the key-competitors;
- Situation of the studied organisational structure.

The algorithm of the complete study of competitiveness is shown in the table 1.
Table 1. Competitiveness study

<table>
<thead>
<tr>
<th>Step</th>
<th>Study elements</th>
<th>Study methods /comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Situation of the field activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Structure of the field</td>
<td>Method of strategic groups</td>
<td></td>
</tr>
<tr>
<td>B. Progress forces</td>
<td>Definition: forces that can produce strategic modifications in the activity field</td>
<td></td>
</tr>
<tr>
<td>C. Economic factors and field characteristics</td>
<td>Common factors</td>
<td></td>
</tr>
<tr>
<td>D. Strategic problems of the field</td>
<td>Specific factors</td>
<td></td>
</tr>
<tr>
<td>E. Prognostic of the field in the globalization perspective</td>
<td>Method „Environmental scanning”</td>
<td></td>
</tr>
<tr>
<td>2. Situation of the competition in the field</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Competitive forces</td>
<td>Method of the 5 forces model (Porter model)</td>
<td></td>
</tr>
<tr>
<td>B. Competition positions of competitors</td>
<td>Competition advantages</td>
<td>Low cost distinction</td>
</tr>
<tr>
<td>C. Probable actions of competitors</td>
<td>Evaluations regarding concepts</td>
<td>strategies</td>
</tr>
<tr>
<td>3. Situations of the organisational structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Evaluation of the satisfaction with the actual strategy</td>
<td>Directions</td>
<td>Relating to the firm situation</td>
</tr>
<tr>
<td>B. SWOT study</td>
<td>Success depends on the selection of the elements connected to the strategic problems</td>
<td>Relating to other structures</td>
</tr>
<tr>
<td>C. Competition relative position</td>
<td>Comparison cumulative methods based on an objectified scale of the key-factors</td>
<td></td>
</tr>
</tbody>
</table>

Quality by its quality to release and get dynamic both inside and outside the organisational structure, as well by the importance given to the “net functioning” (inter-organizational and inter-personal collaborations), can contribute essentially to:

1. Identification of some advantageous “niches”;
2. Formation of synergic sustainable structures;
3. Development of innovation (to facilitate the implementation of the innovation into utilizable and saleable products);
4. Promoting the new technologies and the informational society.

Facilitating the access and the adequate utilization of the quality instruments by the organisational structures, it is possible to develop the whole economy.

In the last time, the concept of “quality” enlarged considerably its dimensions. In order to obtain and maintain the quality the “quality management” has been utilized as strategic element of the general management of an organisational structure. This enlarged concept is today indispensable, in the acerbic fight for surviving in the conditions of globalized market.

The quality management strategies are oriented to the satisfaction of the client, being based on the continuous improvement and they are always placed behind the modern re-organizations. [7]

Studying the process approach in the total quality system and the characteristics and specific features of the reengineering a strong reciprocal connection has been established between the two concepts emphasizing the followings connections: (figure 1)
• Unity between the reengineering object and the quality system submitted to research, more specific business-processes;
• Orientation in the same direction of the business-processes – to the satisfaction of the client’s necessities and requirements;
• Quality that passes through all the steps of the enterprise’s activity and represents the fundamental principle both of TQM (General system of quality management) and of the business-processes reengineering;
• Permanent changes produced both in the enterprises submitted to the reengineering and in the enterprises that implement the total quality system;
• Remarks on the activity of the organisational structure are made in time;
• The “method of the added value” is utilized in the both conceptions.

Even with all these connections, an identity between the reengineering concepts and TQM cannot be established.

4. SITUATION AT THE LEVEL OF THE NEW EU MEMBERS

In what concerns the new members of the EU (Romania, Bulgaria, Slovakia, Estonia, Latvia, Lithuania), due to the property transfer and to the frequent changes of competition, regulatory and organisational nature, the new structures didn’t dispose of the necessary period for consolidation and continuity, the process of re-orientation and adaption falling behind. The development of a specific philosophy, of a strategic orientation and of several specific structures for the stimulation of the innovation and creativity is made at a low speed in the majority of the industrial sectors as in the agriculture. In the top industry and partially in the buildings creative-innovative solutions of quality have been more quickly adopted, implemented and used. Often, management styles, motivating systems and innovative processes are not properly articulated and integrated into complex and realistic systems. The concepts and practices of creativity-innovation of inter-organizational type are less known, the management being rather marked by the idea of conservation of certain individual and isolated positions in what concerns corresponding devices. A kind of internal atomisation of the innovating structures is specific to this behaviour, although the study of the respective international mechanisms, devices and practices provides clear and obvious conclusions marking their failure. In many cases, the approach of the innovative process is summarised in a brief interpretation like:
- innovation – material result (routing: concept-prototype-product);
- innovation – research as internal strategy (isolation by respect to the outside).

The most often, the management style creates the main barriers in the way of the innovative process:
- the creative process is regarded as an attitude occasionally necessary and not as a mental and attitudinal constant disposition;
- the creative process is considered as a prerogative of research - development activity and not as a vital component part of the entire organizational system;
- the creative process is perceived as depending only on the organizational factors and not on the personal capacity of each one to surpass the pre-established models;
- the creation and the innovation does not have to be imparted with others.

From the inter-organisational innovation point of view, some philosophies and innovative behaviours types are still prevailing:
- few studies are engaged regarding the problems of identifying and valorisation of the sources characteristic to the innovation by recourse to the co-operation or collaboration between enterprises;
- in the machine building industry and metallurgy sharing of the knowledge is little used by the companies in order for them to increase the innovative performance; a small number of firms that build their innovative strategies by sharing with strategic competitors; [11]
- the strategic alliance are present most in the field of the automotive equipments and component parts and in the telecommunications;
- innovation in collaboration with the purpose of maintaining the continuous innovation is a mean utilised occasionally, most in the food industry and in the consumer goods industry due to the reduced technical and financial support of the Romanian companies;
- performances measurement and award in the innovation does not encourage the employees to use the creativity and to innovate for the benefit of the enterprise;
- the research - development consortium are circumstancestially established, having in view to reach certain objectives on short term;
- the attributions of the project managers are not delimited, they cannot take decisions in many cases without the approval of the enterprise’s
management. The project managers have not the direct control on the project budgets and this have a negative effect on the setting of the proper actions to take.

5. ASPECTS AND TENDENCIES REGARDING THE INNOVATION MANAGEMENT OF THE ORGANISATIONAL STRUCTURES

Innovations represent a very important concept in the new competition context. Knowledge has as basis innovative processes and the innovation potential can be developed by training and perfecting. Innovations are studied from many perspectives that influence significantly also their defining. In principle there is two approaches, that oriented to the results, where the innovations represent a new idea or a new procedure, and that related to the process. Conforming to the process approach, the difference between the macro-economic approach and the micro-economic one appears and the difference between the sociological approach and of the organizational theory approach appears. [6]

This typology can be completed depending on the novelty degree with radical or routine innovations and, depending on content, with product, process or social innovations. With the expansion and upgrade of the knowledge structure new chances of proliferation of the radical innovation appear. The innovational pressure is more and more accentuated following the reduction of the innovational cycles and the innovation represents the decisive criteria associated with the transfer of know-how and of the rights of intellectual property (Hauschild and Chakrabarti, 1988).

At the organizational level, the innovations management brings in the forefront the entrepreneurship with a new orientation toward flexible structures and toward the creation of a relaxed atmosphere oriented to the creation, with many maneuver spaces necessary to the development and promotion of the new ideas by the employees. Specialty studies indicate even the existence of a management of the ideas as a new instrument of management into the framework of the organizational structures (Arnold, 1997). At the basis of this one there is the process of implementation of a innovating culture in the whole organization. (Macharzina, 2002). Re-designing of the organizational processes is characterized by maneuver spaces for employees, by the possibility of the inter-personal communication, by tolerance in case of faults, by the delegation of the responsibility, by the orientation to the team work. [8]

In the organizational structure, the implementation of the innovation strategy is facing the limited flexibility of the big structures and of the resistance to change of the management. These barriers can be removed by promoting an innovating organizational culture even in the form of „corporate venturing”.

The innovational management of the organizational structures consists in the permanent renewing both of the content and forms of manifestation of the managerial processes and relations and of the managed activities with direct and indirect effects in the organization functionality and results. The innovation object in management consists of the people activity, the modality of deploying this activity and the complex nature of the problems they face. From the multiple forms of the innovational management we mention:

- Elaboration and application of company global strategies and politics with a pronounced innovational dimension – strategic options related to the organization, renewing and modernization;
- Development to the superior management of the approaches and behaviours with an innovative character;
- Diversifying and application on a scale as large as possible of the methods and techniques of stimulation and amplification of the creativity;
- Proliferation of the partial innovative strategies (renewing of products, technologies, knowledge, equipment)

Innovations based on knowledge are different of other types by the number of their beneficiaries and by the achieving time, usually very long. There is a time between the apparition of a new knowledge and the technology that uses it. We have to add the time until it arrives to be delivered on the market as products, processes or services. Two complementary characteristics follow from here and they need to be mentioned:

- Innovation based on knowledge is a controllable process because it is the result of conscientious, consequent searches;
- Innovation based on knowledge depends on the study of the market needs.

Motivation of innovation is justified by the fact that this one is one of the functions specific to the initiative in business, whether if it comes of an existing firm, a public institution or a new business of family. When the innovation is understood as the effort to produce an important change, focused on a
certain aspect in the economical or social potential of an organisational structure, we deduce the strong intrinsic raisons maintained by the extrinsic conditions and factors which influence it.

6. CONCLUSIONS

Re-design the organisational processes in the research-innovation activity represents a necessity sustained by the issues of the integration of research programs and themes in the European research programs and capitalization of the research results et the level of the applicant unities. Re-design of the organisational processes has in view to obtain major improvements regarding the cost, quality, modalities of implementation and technological transfer.

The decisions in research and innovation are based the competitiveness studies elaborated in concordance with multidimensional diagnosis. Evaluation of the performance of the innovation – research activity means the evaluation of the efficiency of this activity through indicators. For the increase of the evaluation relevance it is necessary that the process indicators weighting is greater than the inlet/outlet indicators weighting.

The study of the evaluation of the research-innovation activity from the perspective of the organizational processes spotlighted the followings:

1- Up to a certain economical ceiling specific to each country and organisation, the public financing of the research and innovation is indispensable;
2- Over this ceiling, the private financing is essential for the increase of the economic performances;
3- A second economical ceiling can be over passed with mixed financings – public-private but into the context of the “right place and moment”.
4- Comparative studies between EU countries demonstrated that the direct values of the innovation performance indicators, as well as the aggregate indicator based on which the European hierarchy is made are not enough to make an orientation toward the most adequate specific measures necessary to a state.
5- Innovation comparative studies and those based on indicators can determine the orientation toward the most adequate measures in good practice conditions.

Re-design of the organisational processes in the research-innovation activity redefine the value, blocking on the market the competitors who cannot reproduce the business efficient model.

References