

## Analysis of the Definitions of the Concepts “Reengineering” and “Restructuring” in the Business Organizations Applying Smart Management

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### Abstract

The article is focused on the cognitive, functional and timed review and analysis of the existing in literature definitions of the concepts “reengineering” and “restructuring”, where the emphasis is on pointing out the similarities and differences between the two concepts. While analytically evaluating the studied definitions, there is a specific relation drawn between the requirements in respect to their content in the business organizations applying smart management. Involving reengineering and restructuring with the presence of a smart management toolset in the economic entities necessitates clarifying the nature of the “smart management” concept as well. On this basis, the article concludes that the contemporary digital economy ever more evidently requires smart management in the business organizations, which, in turn, leads to initiating processes of reengineering and/or restructuring therein. Thus, the triunity between the concepts “reengineering”, “restructuring” and “smart management” is outlined as a specific fundament of the new, reconsidered concept for the efficiency of the processes in the business organizations.

*Keywords:* reengineering, restructuring, smart management, efficiency.

### 1. Introduction

There is still no established definition of the concept “smart management” in the theory, and the involvement of reengineering and restructuring with the application of smart management in the business organizations is still not studied and analyzed in research literature. The problem is relevant since the changed economic mechanisms, restructuring the economic system from “economy of ownership” to “economy of sharing”, where of primary importance is not the ownership over the assets, but the access to the assets [1, 2], require radical reconsidering and reorganizing of the processes in the business organizations.

Binding the analysis of the notions “reengineering” and “restructuring” with the “smart management” concept requires conducting a theoretical review of the main definitions of those notions existing in literature.

The best established definition of the concept “reengineering” in research literature is “fundamental reconsidering and fast thorough redesigning of the business processes for achieving radical improvements in the main indicators of an enterprise.” [3] A number of other authors also assume that the radical changes should be promptly implemented [4-7]. The opposite thesis – that reengineering is not a fast alteration of the business processes in an organization, but a longer change, is also subject of discussion in research literature [8]. On the background of science development in a global aspect, the Bulgarian researchers assume that reengineering is redesigning of the processes in a corporate organization in compliance with the

fundamental reconsidering and redesigning of the economic processes in view of achieving substantial improvements in respect to the evaluation of costs, service quality, promptness of delivery and servicing [9]. The reengineering of the economic processes is implemented through:

- improving the process;
- achieving “the best”;
- profitability margin.

Defining the concept “restructuring” requires to step on the basis of the nature of the “structure” concept – an entity formed and functioning through its elements [10\*11]. At the same time, however, restructuring can be regarded as a process of:

- incessant overcoming of the weak efficiency in an organization in view of attaining market leadership and low production costs [2], [12];
- planned and managed reorganization [13-15];
- permanent changing of the strategy of a business organization requiring regrouping of property and finance in view of more effective distribution of resources, prompt launching of new products on the market, safeguarding currently operating deals and markets, acquiring new markets [13], [16], [17];
- permanent adapting to the requirements of the globalizing world economy, whereby an essentially new socio-technical system is established with changed production values and new production factors [18].

The absence of a definition of the “smart management” concept to date requires that its defining should be based

first of all linguistically – the meaning of the word “smart” is most often related with intelligent. Therefore, smart management in a wider meaning can be defined as intelligent, clever management, which has five specific characteristics:

- Specific –specificity, which means that this type of management pursues specific goals and strategic targets;
- Measurable – measurability, which is expressed in a particular comparison through a certain indicator of development in respect to a past time period;
- Achievable – coordination, which is expressed in correspondence between planned strategic goals and available resources;
- Relevant – relevance ensuring the adequate response of the organization to the changing conditions of the environment;
- Time bound – time limitation issuing from the necessity for a prompt response of the organizational structure to the overcompetitive conditions of the environment and overcompetition for resources.

Defining the concept “smart management” in a narrow meaning requires taking into account its functional, quality and structure-determining characteristics. On this basis, in a narrow meaning, smart management is a digital technological system, applied in an economic entity in view of achieving the organizational goals, and includes a wide range of highly technological solutions and business models, based on artificial intelligence and cognitive systems, machine self-learning and smart mobile applications, blockchain technologies and digital platforms. In general: smart management is a system with inbuilt intelligence, integrating innovative business models and possibilities for personalization and adaptation to the needs of a particular business structure. The smart management system in the business organizations leads to essentially new forms of economic organization and management of the business units. It is a synergic unity of interrelated and interdependent various smart subsystems, working in a network, inbuilt and digitally integrated, which mediate the automated and autonomous management of the entire organizational structure. Those subsystems unify in a systematic entity the correspondence and communication between the various production factors and manufactured products, whereby optimizing the structure in all its hierarchical levels and functional planes.

On the background of the theoretical review made of the concepts “reengineering”, “restructuring” and “smart management”, object of analysis and evaluation in the present article are the concepts “reengineering” and “restructuring”. Subject of the study is the content-related aspect of the concepts “reengineering” and “restructuring” in a comparative respect with the business organizations, which have introduced smart management for their processes.

The goal of the study is to define more precisely and upgrade the concepts “reengineering” and “restructuring” with their involvement in an intrinsic relation with smart management in the business organizations. Therefore, for the purposes of the current research it is assumed that there are two relations existing: “smart management – reengineering” and “smart management – restructuring”.

The objectives of the present study are:

- to make a review of the definitions in the research literature for the concepts “reengineering” and “restructuring”;
- to study, analyze and substantiate the connection between smart management and reengineering and/or restructuring in the business organizations;
- to draw a comparative analysis in a cognitive, functional and temporal aspect between the two concepts, while taking into consideration their relationship with smart management;
- to further upgrade and sophisticate the conceptual construct on the research topic.

## **2. Researching the link between the concepts “reengineering”, “restructuring” and “smart management of the business organizations”**

Smart management of the business organizations leads to finding a favourable outcome for several major problems, which simultaneous solution has been impossible so far with the traditional management toolset:

- achieving competitiveness on the basis of productivity;
- resource provision “right on time”;
- provision and analysis of informational flows in real time;
- planning and control in real time;
- decision making with informational provision and minimal risk;
- tailor-made products according to the personal requirements of the clients;
- quality of the produced goods;
- quality of the production processes.

The introduction of smart management in the business organizations requires carrying out radical and/or cardinal changes therein. This, in turn, prompts reengineering of the processes and/or restructuring of the entire organizational system. There is a specific link between the three concepts, since management, based on artificial intelligence, requires quick transformation of the business processes in an organization or radical reorganization of the entire management and production structure.

From a systematic approach perspective, smart management is the driving factor, which leads to reengineering and/or restructuring in the business organizations. Therefore, the two concepts should have their own specific characteristics when studying economic entities applying smart management systems. At the same time, reengineering of the business processes is a narrower concept and is often a component of the restructuring process. Hence, restructuring of a business organization is a stage upgrading reengineering in organizational, temporal and spatial aspect, as well as in respect to efficiency and profitability.

The application of smart management in the economic entities has several effects, which make the business units competitive and sustainable to the changes in the global macro-environment. These advantages are achieved through reengineering of the business processes and/or restructuring of the entire business organization. Thus, owing to the three processes – smart management, reengineering and restructuring, the business organizations achieve three fundamental effects:

- minimizing the time for decision making;

- minimizing the resource consumption;
- maximizing the manufactured production.

These three effects create genuine prerequisites for the development of competitiveness, based on:

- individual customer approach;
- adaptability to the conditions of the environment;
- added value, realized as a result of applying smart algorithms and innovative conceptual approaches.

### 3. Methodology for cognitive, functional and time-based comparative analysis of the concepts “reengineering” and “restructuring” in organizations applying smart management

The chosen method of study of the concepts “reengineering” and “restructuring” is analytical-synthetic, while the methodology of research includes a combination of approaches, ways and methods of conducting a research, processing and analysis of results. The main structure of the methodology and the links between its separate elements are shown on figure 1.

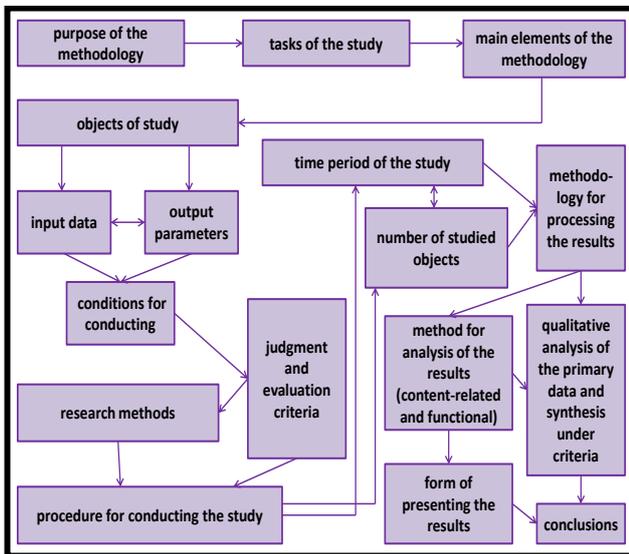


Fig 1. Methodology for conducting cognitive, functional and time-based comparative analysis

The methodology of research comprises two main methods, where each of them has its stages, representing an integral part of the study:

- analysis – a cognitive process of decomposing of the objects of study (the concepts “reengineering” and “restructuring”) into their constituent parts (elements, signs, stages of development and oppositions) in view of revealing their nature;
  - empirical study – collecting information about the objects of study and primary processing of the collected data – checking for authenticity, grouping and classification by importance;
  - theoretical research – studying the objects of analysis under criteria, description and explanation of their constituent elements;
- synthesis – a cognitive process, whereby defining the link between the single signs established with the analysis and the elements of the objects of study and

their integration into features and properties, which reveal most the nature of the analyzed concepts.

- - defining the link between the elements of the studied objects and the possibilities for their integration on the basis of something new and essential;
- defining the nature of the studied objects as a combination of integral properties and trends for their development, and recommendations for practical applicability in the future.

The cognitive comparative analysis between the concepts “reengineering” and “restructuring” indicates that there is overlapping of the ultimate goal of the two processes in the economic entities applying smart management – radical improvements in the main indicators of the business organization. At the same time, under the impact of the smart management systems, there is a systematic transformation of the material, financial and informational flows provoked with reengineering, while with restructuring – the changes in those functional planes are a consequence of a change (reorganization) in the structure of the entire business unit.

The functional comparative analysis shows that with smart management in the organizations, reengineering requires a transition from a functional to a process-based management approach, and restructuring – a transition from functional to inter-functional management.

Smart management of the business organizations with the processes of reengineering and restructuring prompts various changes:

- With reengineering, the chosen processes are changed in a radical way in view of achieving quickly certain efficiency. That determines the relatively small scope of the changes, while the process is defined as efficient only if the results provide exponential advantage over the competitors.
- Restructuring is a cardinal change focused on achieving efficiency in a long-term aspect; it concerns the entire organizational-and-management structure of a business unit and leads to achieving synergic results.

When comparing the time scope of the two processes in business structures, applying smart management, the following specific characteristics are outlined:

- Reengineering is regarded as a one-time short-term project. The goal is to transform under a model any of the leading processes for the organization, while the reengineering concept excludes the possibility for reengineering of all the process at the same time.
- Reengineering complies with the project approach and upon completing the reengineering process, a natural decline starts, which continues until the organization decides to start a new project for redesigning of its processes. That leads to the so-called serrated impact over time of the induced changes.
- Restructuring is long-term oriented and it is aimed at radical reorganization through the introduction of new processes, structural elements, methods, mechanisms and work approaches simultaneously in the entire organizational structure.
- Restructuring is a long-term strategically set as a goal and planned process, focused on achieving sustainable efficiency and synergy in the long run.

Pursuant to the conducted analyses, a conclusion can be synthesized that reengineering in the economic entities applying smart management is a specific change in the current functional understanding and structuring of a business unit, where that change should be related to the radical change in the management of an organization. The goal of reengineering is achieving radical transformation of the business processes in an organization, enabling a breakthrough in business and significantly overcoming the competitors.

Restructuring in the economic entities applying smart management is based on the dissipative concept for the change (regarding the organization and the environment as a single entity) and creates order of a higher rank. It pursues the differentiation of a successful dissipative structure, ensuring permanent focus on achieving the strategic goals (through reaching a state of dynamic equilibrium with the environment and/or permanent transformation) and maintains openness and consistency of the relation of a business organization with the environment. Restructuring is implemented through reforming changes (in the various aspects of the macro-environment, within the product lifecycle, within the internal environment of the organizational system). Restructuring is a fundamental change in the structure and the structural elements of a business organization, while change is modification in the business processes or reengineering.

Following the exposition above, it can be summarized that in the business organizations applying smart management the reengineering concept is designed mostly for changing old processes through their radical redesigning with new ones, while restructuring as a concept concerns the implementation of such cardinal changes, which lead to qualitative and quantitative modifications not only in the processes, but in the entire structure of a business unit.

**3. Results and discussion**

As a result of applying the methodology for conducting a cognitive, functional and time-based comparative analysis of the concepts “reengineering” and “restructuring” in the business structures, applying smart management, the results can be summarized in respect to ten criteria concerning the modifications with the two studied processes (Table 1).

As a result of the analysis carried out in the present article of the concepts “reengineering” and “restructuring” in organizations applying smart management, and synthesis of their main similarities and differences, the following practically applied conclusions can be summarized:

- The practical applicability of the processes reengineering and restructuring should be considered from the perspective of the goals for the organizational development of each specific business unit.
- The planning of the processes of reengineering and/or restructuring in the business organizations applying smart management should take into account the available and necessary resources for a particular process or processes.
- The planning, organization and management of processes of reengineering and/or restructuring should comply with the characteristic features of each of the concepts in line with the ten studied criteria in respect to the modifications they generate, as well as with the main functions of the smart management system.

The research presented in this article has the following restrictive conditions:

- the content scope of smart management in the study does not correlate with the specific cognitive, functional and temporal characteristics of reengineering and restructuring;
- the analysis of the objects of study is not involved with the elaboration and application of a methodology for reengineering and/or restructuring in business organizations applying a smart management toolset;
- no criteria have been chosen according to which the processes of reengineering and/or restructuring can be defined as efficient;
- the factors determining the choice of a process for change – reengineering and restructuring, have not been studied, while outside the scope of the research are also cases, where reengineering should be upgraded from restructuring the economic entity.

**Table 1.** Comparative analysis between the concepts “reengineering” and “restructuring”

<b>criterion</b>	<b>reengineering</b>	<b>restructuring</b>
<b>goal of the modifications</b>	transformation of the business processes	reorganization of the organizational system
<b>type of modifications</b>	radical change	cardinal change
<b>starting point of the modifications</b>	existing process	new process
<b>frequency of the modifications</b>	incessant and simultaneous	time-based planned and simultaneous
<b>temporal aspect of the modifications</b>	short-term	long-term
<b>direction of the modifications</b>	bottom-up	top-down
<b>scope of the modifications</b>	process-based	inter-functional
<b>impact of the modifications</b>	serrated efficiency	sustainable efficiency and synergy
<b>risk of the modifications</b>	low/moderate	high
<b>means of modification</b>	process management	strategic management

Author’s own elaboration

**4. Conclusions**

It could be summarized, in conclusion, that in the organizations applying smart management:

- reengineering is simultaneous and incessant short-term radical transformation of one or several existing business

processes, while their change is implemented on a process level, bottom-up, with low or moderate risk, and leads to serrated efficiency;

- restructuring is a reorganization supported by strategic management, expressed in a long-term cardinal change with inter-functional scope, running in a time-based planned way, simultaneously, and top-down, with high risk, with sustainable in time efficiency and synergy, and

leads to the introduction of a new process or a new organizational-and-management structure.

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