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THE DEVELOPMENT OF THEORETICAL, METHODOLOGICAL AND PRACTICAL RECOMMENDATIONS OF THE INNOVATIVE DEVELOPMENT VECTORS OF BUSINESS PROCESS REENGINEERING AND STRATEGIC MANAGEMENT OF ENTERPRISES

The object of research is the reengineering of business processes, which is used to increase the effectiveness of strategic management of an enterprise, which will create a new type of environmental enterprise «bioalliance». One of the most problematic places is the possibility of conducting marketing research to ensure the competitiveness of enterprises. The paper used the hypothetical method in substantiating the theoretical and methodological principles of organization and functioning of bio-alliances as the basis of bio-economy for rural areas. The study used the economic-statistical method, ranking of economic zoning, correlation and regression and cluster analysis. These methods were used in the elaboration of directions, sources and strategies of development, components of system and process management, state support for the implementation of traditional and new socio-economic and environmental functions. Also in the course of the work, methods of ideal modelling, mathematical modelling and programming, abstract-logical and structural-logical, extrapolation, expert evaluations, surveys, observations, qualitative and quantitative, imaginary and social experiments were used. The results of the market analyses of agricultural companies showed the inexpediency of agricultural companies. Based on the research, modelling and re-engineering of business processes through the implementation of organisational, corporate, business and functional strategies was proposed. The new form of agrarian enterprises, proposed in the work, is «bioalliance», based on the principles of integration of tourism sphere, sphere of organic production and production of eco-commodities, as well as using bio-resources as the main source. Compared to similar known methodologies of strategic management, the proposed methodology provides enterprises with a high level of importance in the regions, increasing the efficiency of the use of the resources available in their ownership. And also to allocate new market segments in order to attract not only existing, but also potential consumers.

Keywords: bioeconomy development, innovative tools, strategic management, marketing research, enterprises competitiveness, agricultural enterprises.

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1. Introduction

Crisis phenomena in the economy help to track crisis trends and develop their time measures, which forces scientists to engage in research and solve problems, related to business process reengineering and the development of tools for strategic management of enterprises.

Problems of strategic management of enterprises are always in the center of attention of scientists. However, despite the significant number of works, it should be noted, that most of the works are devoted to the methodology of competitive and corporate strategies, while the development of business process reengineering remains insufficiently studied.

With the intensification of competition in foreign and domestic markets, only reducing the price and improving the quality characteristics of products can no longer be a guarantee of success in the long run. Today, more and more companies are realizing that the awareness of the environment in the production of an enterprise, its activities, and in society is one of the important tools for effective management. And it is reengineering that is a fundamental rethinking and radical redesign of business processes to achieve significant improvements in such key performance indicators for modern business as cost, quality, level of service, and efficiency.

The urgency of the research problem is also due to the novelty of its formulation for agricultural enterprises, in particular Ukrainian (on the example of which research was conducted), which do not yet have sufficient positive management experience in a competitive environment.

Thus, the development of theoretical provisions and methodological tools for business process reengineering and adaptation of innovative tools for strategic management of enterprises is a topical scientific problem that is important for the national economy, which depends on the competitiveness and efficiency of domestic enterprises.

2. The object of research and its technological audit

The object of the study is business process reengineering, which is used to increase the efficiency of strategic management of an enterprise, which will allow creating a new type of environmental enterprise, «bioalliance».

The subject of the study is a set of organizational and economic relations in the field of innovation of an enterprise, which contributes to improving the efficiency of strategic management of production processes.

One of the most problematic places is the possibility of conducting marketing research to ensure the competitiveness of enterprises.

3. The aim and objectives of research

The purpose of the study is development of theoretical, methodological and practical recommendations for the development of business process reengineering and strategic management of enterprises that will solve the problems of their modernization and ensure sustainable development of enterprises.

To achieve this goal, the following research objectives are identified:

1. To specify and formalize the logical sequence and substantive essence of business process reengineering.
2. To study the features of the use of reengineering in the management system of innovative activity of an enterprise.

4. Research of existing solutions of the problem

The results of the author's research on the use of business process reengineering as a tool of crisis management are reflected in the works of many scientists.

Researchers emphasize that a business process is a set of related actions that produce a certain result for a particular client. Effective business process building is an important issue for corporations. The main issue for most is the need to improve the existing business process in the organization before reengineering business processes. Business process reengineering is a tough look at why, what, when, how and where an organization does the same; so it is. Researchers describe the concept and need for reengineering, which can increase the competitiveness of enterprises in general [1].

Scientists in the early '90s of the twentieth century gave impetus to the development of reengineering, which has become a radically new approach to business process management. They consider any enterprise as a system with a significant number of business processes. It is a numerical number of functions in the various elements of the divisions of an enterprise, which output the final product or service [2]. This approach became the basis for further rethinking of business processes by many scientists who were engaged in a radical redesign of these processes in order to improve the functioning of enterprises in various industries. The key indicators of this theory are cost optimization, quality, level of service, and efficiency that ensure the successful implementation of a business. It is proved, that reengineering of business processes leads to improvement of production and commercial activity [3].

First, for a direct understanding of business processes, we give the example of a Ukrainian scientist, who developed a detailed scheme of sequential reengineering of business processes of an enterprise, which is systematical (Fig. 1).

Although there are a large number of scientific views on business processes and their innovative restructuring, scientists identify such key approaches in improving business processes as step-by-step and radical (breakthrough). Under such conditions, the ways of radical restructuring of business processes are further divided into two groups depending on the duration of the long-term and short-term [5].

Business analysis techniques, used in reengineering business processes, allow you to improve the strategic management of an enterprise. Some management and reengineering techniques have been found to be preferable to others. Some possible reasons are related to the conformity of the technique for analyzing a problem situation, the ease of use of the selected technique and its versatility. Some projects require multiple methods, while others require only one. The complexity of the problem seems to correlate with the number of methods required or used. It was revealed, which methods are used more often, which are more versatile, and which are difficult to use and why. They guide the choice of method and identify potential problems. Not knowing the technique leads to disaster and increases the risk of a project. Understanding problems can help reduce project risks and improve project success, which will benefit project teams, practitioners, and organizations [6].

Reengineering is becoming an increasingly popular option for companies, seeking to radically change processes. The central condition for the success of reengineering is the coordination of information and innovation technologies throughout an organization. When companies improve key processes, such as one-time data collection, the integration of cross-functional systems, or increase the speed and

relevance of marketing information processing, a radical change in business processes is possible. However, in order for professionals to facilitate reengineering or organizational change, managers need to be familiar with the various methods, by which professionals can help change processes. At the same time, management needs to be aware of the many pitfalls that can doom any effort to make changes with use [7].

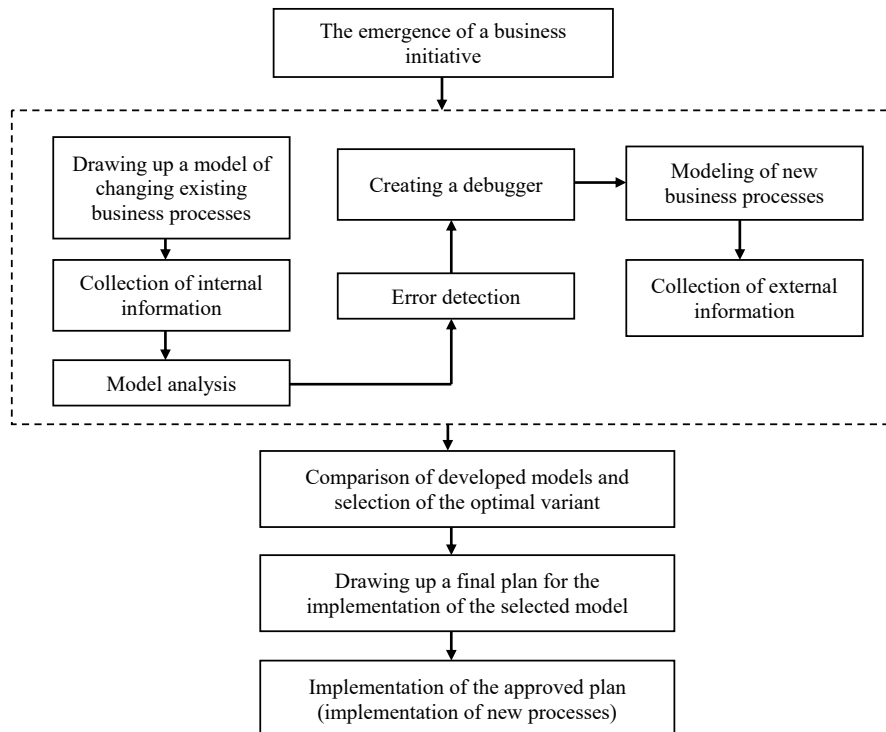


Fig. 1. Sequence of reengineering of business processes of an enterprise [4]

The scientists presented examples of the use of business process modeling in the context of an approach to changes in business process reengineering. The methodology changes based on the provision of the context modeling process, as it links the objectives of the business process modeling study to the strategic goal of an organization and includes taking into account human factors to achieve a successful implementation of the updated process. Note that the data, resulting from the reengineering action, includes variability, scenario analysis, and visual display systems to convey the performance of the process and make it a useful technique for realistically assessing the need and the results of change [8].

The COVID-19 emergency has urged companies to operate in new ways to face supply chain interruptions, shifts in customer demand, and risks to workforce health. The organizational ability to respond to critical contingencies is crucial for business leaders in the perspective of continuing business. In this research, we investigate the actions, undertaken by world-leading corporations to respond to the pandemic. Scientists also describe illustrative company examples of how the emergency can generate opportunities for creating new value. The study advances the scholarly discussion on the impact of emergencies on business continuity and can help leaders define response strategies and actions in the current challenge [9].

The methodology can assist enterprise decision makers (DMs) to select from a number of processes during Business Process Reengineering according to organizational objectives. Indeed, after the identification and classification of process and illustration of the organizational objectives and criteria, the effect of each process on each objective and criterion is calculated to select the most appropriate processes for reengineering purposes [10].

Thus, the results of the analysis allow us to conclude that the issue of business process reengineering, especially during the crisis after the COVID-19 pandemic, is a topical issue now. The research carried out have explored the deeper connections between reengineering and analysis methods, and the risks of using different methods to diagnose problems across multiple dimensions. These studies made it possible to develop methodological support for the implementation of reengineering of business processes of agricultural enterprises [11, 12].

5. Methods of research

The theoretical and methodological basis of the study is the main provisions of the theory of strategic management, marketing, consumer behavior, analysis of statistical data. During the work such general scientific methods as analysis and synthesis, method of scientific abstraction, theoretical generalization were used. These methods were used

to analyze the evolution of the theory of strategic management, generalization of foreign experience in business process reengineering, identification of trends and problems of business process development.

Special methods of knowledge were also used in this paper:

- statistical analysis – to assess the level of organization of strategic management of business entities;
- comparative analysis – to determine the level of competitiveness of business entities;
- factor, rating, and SWOT-analysis – to assess the factors, influencing the functioning of business entities;
- graphic – to visualize the results of the study.

The information basis of the study was the official statistics of the State Statistics Service of Ukraine, the results of international surveys, monographs, periodicals, Internet resources, the results of their own empirical and analytical studies.

6. Research results

As a result of conducting the research, the content of the concept of bioeconomy was determined through the understanding of economic processes on the example of the formation and functioning of bioalliances. The theoretical foundations of the organization and functioning of bioal-

liances through the prism of the formation of integration business structures with an innovative approach to the production sphere and the commercial component are presented. Methodological bases of strategic management of bioalliances in the context of separate models of formation of polystructural mechanisms have been developed. The financial and investment portfolio of bioalliances has been formed. Procedures for implementing marketing strategies and brand management of bioalliances in the context of digitalization have been developed. Based on the research, we can emphasize the involvement of state support for bioalliances as the main diversifiers of the modern agricultural sector and components of rural reproduction. It is substantiated, that the tools for modeling, forecasting, and planning the development of bioalliances will provide for their coordination with the relevant procedures for the development of tourist destinations and rural areas, i. e., in a sense, they should be part of them. Existing market technologies for involving bioalliances and business intelligence methods to determine the effectiveness of their use will be further developed. Strategic management mechanisms, taking into account modern tools of risk management of bioalliances, as well as research methods based on a risk-oriented approach to the possibility of leveling the existing negative factors and consequences for the economic results of bioalliances. Marketing strategies for the development of bioalliances, detailed by subject and areas: brands, PR and product promotion strategies. Practical proposals for the formation of collaborations of related products (organic and environmental), services and attractions specific to a particular region, territory, but with the appropriate use of individual thematic advertising campaigns are needed to form a positive image of bioalliances as the latest integration business. The concept of supporting bioalliances will continue to evolve. It is based on determining their leading role in the preservation, reproduction and development of rural areas. Thus, it provides a national level of development. Mechanisms for attracting mainly indirect means of support and mechanisms for implementing integration processes at the national, regional and local levels with maximum coordination between them and taking into account local conditions and freedom of development.

All the obtained results will have scientific significance and will be proved using a wide range of methods. The methodological basis for the formation of the bioeconomy is based on the efficiency of the formation and functioning of bioalliances, business process reengineering. The fundamental basis for the competitive development of «bioalliances» is the methodology of organizational, managerial, marketing, financial and social strategies, as well as improving methodological and methodological tools for strategic management of bioalliances, taking into account the vectors of European integration. Recommendations for assessing the effectiveness, problems, and trends in the development of bioalliances and substantiation on this basis of innovation and investment mechanisms and marketing strategies will be practical and methodological. Methodical recommendations for scenarios and models of organization and development of bioalliances with the formed polystructural mechanism will have a practical and methodological nature and can be fully used in the activities of certain business structures.

7. SWOT analysis of research results

Strengths. Bioalliances are a reengineered business process that allows combining the production of eco-products in large and small agricultural enterprises with the involvement of green tourism, which are mechanisms for implementing integration processes at the national, regional and local levels. The methodological basis will allow for the global restructuring of agricultural enterprises, a complete rethinking of activities to achieve greater effect and better economic results. This positive effect, which was revealed during studies conducted, has a direct impact on the competitiveness of agricultural enterprises.

Weaknesses. The weakness of this study is that reengineering, as opposed to business process optimization, is a global business restructuring, and therefore, most agricultural enterprises are not yet ready to realize all the work that needs to be done and the time that will need to be spent.

Opportunities. Business process reengineering involves redesigning the model and creating completely new processes that will not only bring additional profits to a company, but also help facilitate the entry of domestic agricultural enterprises into the world market. For agricultural enterprises that will switch to the business model of bioalliances, additional opportunities have been identified to increase earnings not only from the sale of organic products, but also from ecotourism.

Threats. Methodological recommendations on scenarios and models for the organization and development of bioalliances will be practical and methodological. They can be fully used in the activities of individual business structures, so the only threat to research conducted is that companies are impractical, inferior or will not even use them to restructure their business.

8. Conclusions

1. Studied and developed the formation of the concept of bioeconomy on the example of Ukraine, the implementation of strategies for business process reengineering and risk management (equalization of existing risks, including the results of COVID-19) for bioalliances. It will form innovative tools to increase competitiveness.

2. The peculiarities of the use of reengineering in the management system of innovative activity of an enterprise are studied, characterizing its role in the process of adaptation of innovative tools of strategic management of enterprises. Methodological tools for strategic management and reengineering of business processes and a classification system have been developed, which allows to identify the relationship between the main stages of strategic management of enterprises. The possibility of creating bioalliances to increase the efficiency of innovative activities of an enterprise based on the application of reengineering of business processes of the enterprise has been substantiated.

References

1. Timane, R. (2012). Business Process Reengineering (BPR) to Business Model Reengineering (BMR). *SSRN Electronic Journal*. doi: <https://doi.org/10.2139/ssrn.2194107>
2. Didukh, V. V. (2013). Zdiisnennia proektu z reinzhynirynhu biznes-protsesiv pidprijemstv: perevahy ta nedoliky. *Mizhnarodna ekonomika: intehratsiia nauky ta praktyky*, 3, 77–82.

3. Hammer, M., Champy, J. (2006). *Reengineering the Corporation: A Manifesto for Business Revolution*. Harper Business, 272.
4. Kostina, O. (2018). Reengineering the business processes as a tool of anti-crisis management of the enterprise. *Intellect XXI*, 3, 158–164. Available at: http://www.intellect21.nuft.org.ua/journal/2018/2018_3/33.pdf
5. Repin, V. V., Yelifirov, V. G. (2013). *Protsessnyy podkhod k upravleniyu. Modelirovaniye biznes-protsessov*. Moscow: Mann, Ivanov, Feber, 544.
6. Grant, D. (2016). Business analysis techniques in business reengineering. *Business Process Management Journal*, 22 (1), 75–88. doi: <https://doi.org/10.1108/bpmj-03-2015-0026>
7. Chan, P. S., Land, C. (1999). Implementing reengineering using information technology. *Business Process Management Journal*, 5 (4), 311–324. doi: <https://doi.org/10.1108/14637159910297367>
8. Greasley, A. (2003). Using business-process simulation within a business-process reengineering approach. *Business Process Management Journal*, 9 (4), 408–420. doi: <https://doi.org/10.1108/14637150310484481>
9. Margherita, A., Heikkilä, M. (2021). Business continuity in the COVID-19 emergency: A framework of actions undertaken by world-leading companies. *Business Horizons*, 64 (5), 683–695. doi: <https://doi.org/10.1016/j.bushor.2021.02.020>
10. Hakim, A., Gheitasi, M., Soltani, F. (2016). Fuzzy model on selecting processes in Business Process Reengineering. *Business Process Management Journal*, 22 (6), 1118–1138. doi: <https://doi.org/10.1108/bpmj-05-2015-0057>
11. Asada, R., Cardellini, G., Mair-Bauernfeind, C., Wenger, J., Haas, V., Holzer, D., Stern, T. (2020). Effective bioeconomy? a MRIO-based socioeconomic and environmental impact assessment of generic sectoral innovations. *Technological Forecasting and Social Change*, 153, 119946. doi: <https://doi.org/10.1016/j.techfore.2020.119946>
12. Solarte-Toro, J. C., Cardona Alzate, C. A. (2021). Biorefineries as the base for accomplishing the sustainable development goals (SDGs) and the transition to bioeconomy: Technical aspects, challenges and perspectives. *Bioresource Technology*, 340, 125626. doi: <https://doi.org/10.1016/j.biortech.2021.125626>

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