

DEVELOPING AN INNOVATIVE MODEL OF RESOURCE EFFICIENCY FOR INDUSTRY

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Abstract. The article deals with the resource efficiency as a new developing an innovative model wherein intellectual and material components are the main products. It is proved that the model proposed is a foundation to develop actions for the enhancement of management and strategic development subsystems of the activities a central component of an economic system. The authors substantiates the requirement for the search of new approaches to the solution of problems of efficiency evaluation of the industry resource-saving model implementation.

Keywords: resources, strategic resources, resource potential, resource portfolio, traditional resources, intellectual resources, competence resources, transcendent resources, efficiency of the resource supplying, dynamic abilities, strategy development.

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Introduction

Development of the modern business environment relies heavily upon the structure of resources available, i.e. its intellectual and material components that are crucial for entrepreneurship. The importance of the research subject can be justified, taking into account considerably high resource intensity, inherent for economic activities of Ukrainian industry, lack of stable resource supply chains, efficient policies to rationalize the use of resources, programs to identify the structure of the resources available, and the regulatory standards, that shape how the economic activities of business entities develop. Here is a number of reasons to justify the actual necessity to develop a complex approach towards the creation of an innovative resource efficiency model: disproportion of dualistic resource peculiarities, barriers in resource leverage, specifics in evaluating the influence that each element of the resources available exercise upon the market economy actors performance.

The key research theses supported by the full reasoning of the results obtained

Current functional conditions and dynamic development of the business environment imply an intense leverage of intellectual and material resources, that serve as a foundation of business activities. Providing an economic stability as well as market competitiveness of business entities is directly linked to the efficient use of the elements of the resources available.

In the 21st century humankind has met another problem, i.e. resource constraints and hence the necessity to use them rationally. That led to a rapid growth to the development of the scientific approach towards the efficient use of resources issues. The key challenge and an important benchmark for the business strategic development is now achieving competitive advantages through the search of innovative methods to identify, evaluate and enhance the use of resources efficiency, including the definition of their weight and priority.

Moreover, each economic subject has an individual combinations of resources available, thus, developing an innovative resource-saving model requires a system approach. Generally under the “resource-efficiency” we understand processes, designed to rationalize the use of resources during all stages of industrial and business activities, that lead to the release and saving of resources, reduction of cost price, increase of income, environment enhancement and opportunities for better living conditions. It should be done taking into consideration fast development speed on the ground of innovativeness, intellectualization and informational integration.

One can argue that a key criterion of the successful industry performance is resource efficiency that conditions the transition of the economy to the resource-saving development mode that takes into account the following global trends, namely:

- qualitative changes in the use of productive resources structure;
 - dynamics change in ratio of faster end product increase to the labor costs;
 - focus of the resource-saving effect of new technologies and techniques onto the implementation of innovative programs.
- accepting the importance of resource-saving factor and economic growth, with an environment protection perspective.

Nevertheless, it is not always possible to solve the resource-saving dilemma only through traditional measures, even with the research and use of highly efficient resource-saving technologies. To name an example, the development trends in the Ukrainian beer-brewing industry. They are focused on the structural redesign of subcomplexes, creation of the strategical development goals and performance enhancement in choosing various priorities: financial, functional, operational, innovations and investments, social and infrastructural. The experts and specialists in this sphere stress the necessity of management system redesign and its adaptation to the demands of the market.

Current functional trends underline the necessity to develop an innovative resource-saving mode for economical activities. To manage it efficiently is necessary to form stable competitive positions. In analysis of the resource-saving processes the first thing to be done is to identify the elements of the resources available according to the business-processes. Along with this the Ukrainian beer-brewing industry faces a number of unresolved issues, such as efficient performance enhancing, forming and using of intellectual component of the resource potential, restructuring and providing for the market transformation (*Fig. 1*).

Strengthening the position of Ukrainian breweries on the local and international markets depends on the strategic management, reasonable regulation and implementation of efficient organizational and economic tools to promote progressive changes, creation of a proper legal basis to pursue efficient policies of innovation and investment.

One should develop a competitiveness-enhancement strategy of Ukrainian breweries taking into consideration the escalation of competition on the beer market, and thus developing and adaptive resource-management system for their economic activities. Hence it is necessary to begin the development of the adaptive business resource-management system with the definition of the business-processes within an enterprise.

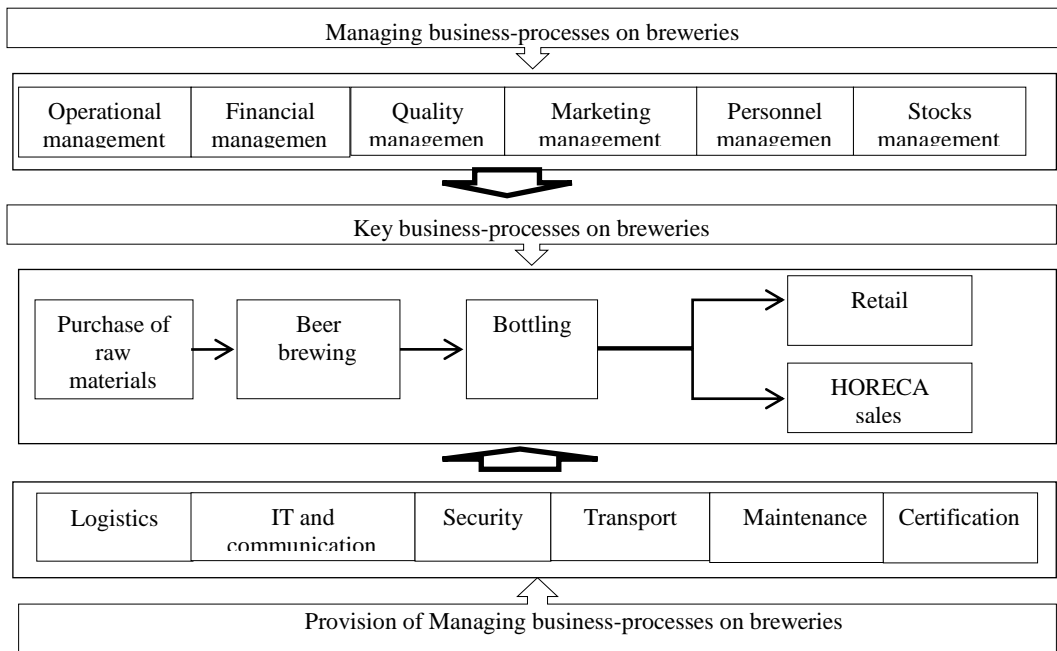


Fig. 1. Business-processes on a brewery

Source: Author’s design according to JSC «Ukrpyvo»

Taking into account peculiarities of the industry we argue that Deming cycle is more relevant to use as a basic scheme of forming and developing of the innovative resource-saving model (Fig. 2).

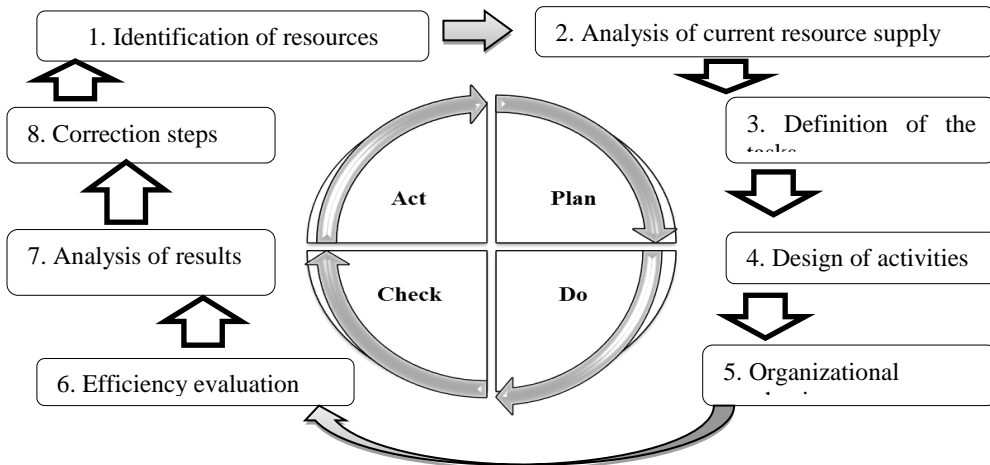


Fig. 2. Program of innovative resource-efficiency model for industry (offer authors)

We researched economic activities and strategic intentions of the industry and hence consider it reasonable to suggest an innovative resource-efficient model with a clear definition of the principles, according to which its particular stages interact.

The general logic of the model is shown on the Fig.3.

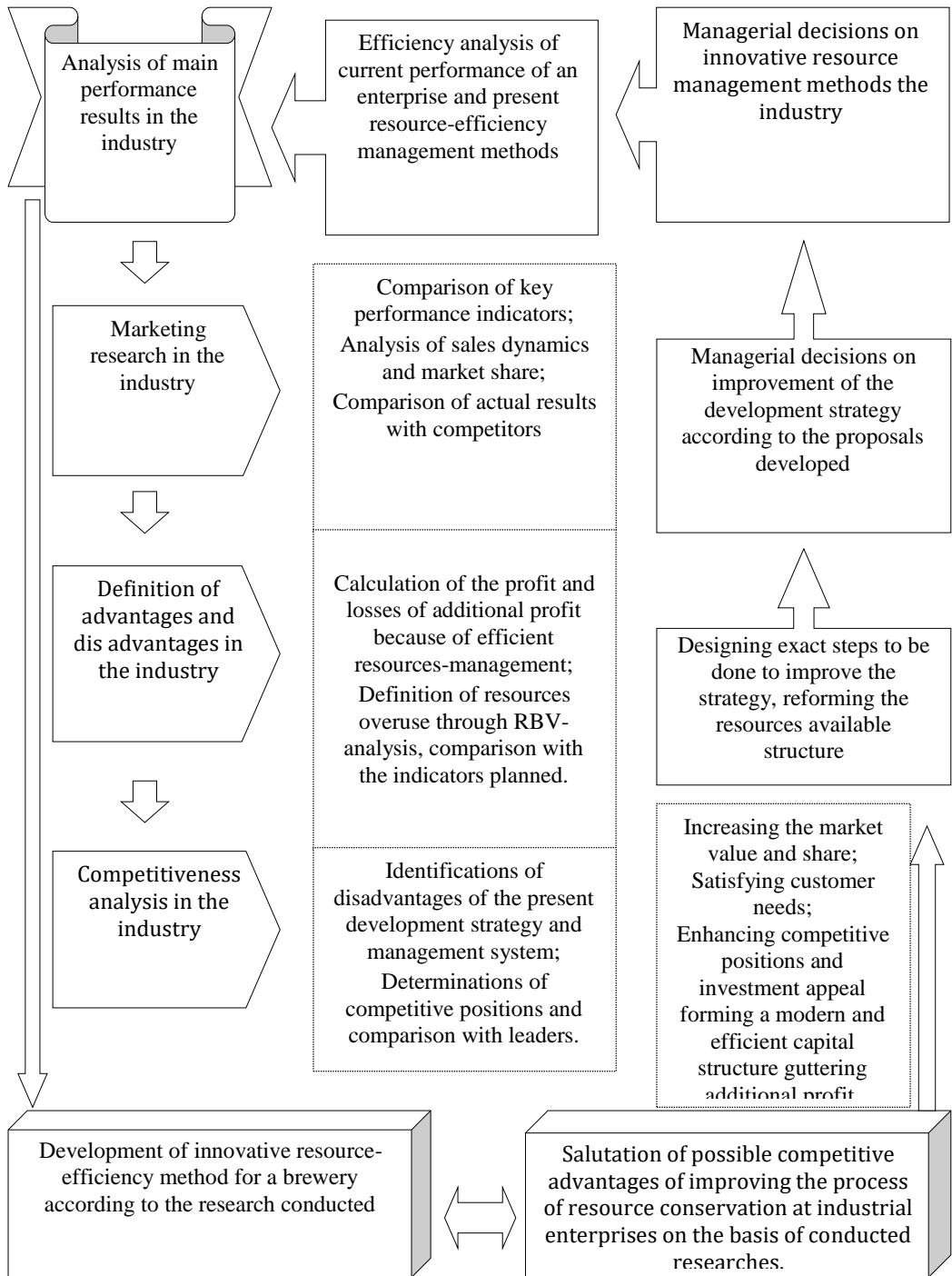


Fig. 3. Innovative resource-saving model for industry (offer authors)

Efficiency of any stage becomes a foundation to implement the next one. Thus it is necessary to thoroughly examine the importance of the adjacent functional tasks and processes on each stage. It is also worth mentioning, that the model developed is adaptive, hence applicable to any kind of industry, as well as breweries. The model proposed is a basis to design further actions, developed to rationalize the use of resources according to the peculiarities of an industry, operational specifics, market positions and current stance of an economic entity.

A model of resource-management should be formed gradually, step by step, so that to get an opportunity to take into account important factors that influence the economic activities. Our research led to the definition of the following five steps (Fig. 4).

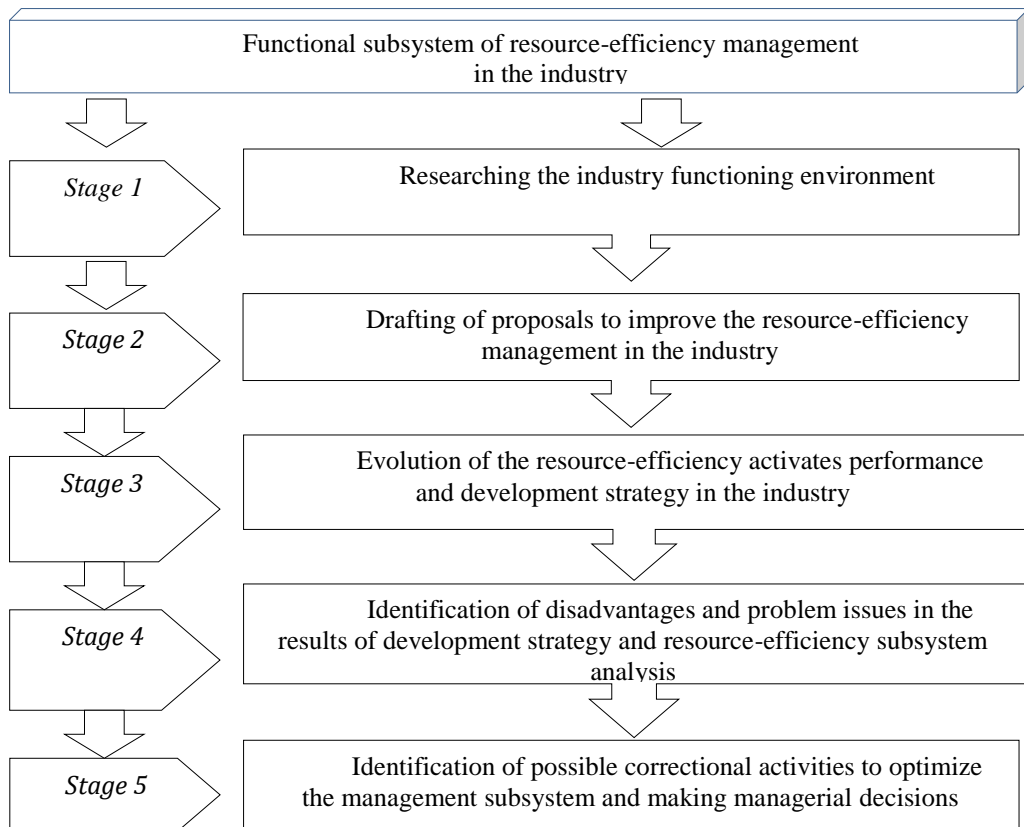


Fig. 4. Stages of an efficient resource-supply model for an industrial entity
(offer authors)

The model proposed is a foundation to develop actions for the enhancement of management and strategic development subsystems, that depend on the specifics of the activities, operational peculiarities, market positions and the current state of an economic entity. We consider this model to be up-to-date and innovative, hence it is worth it to consider it as an alternative perspective of the business strategic development.

It should be also noted that for the functioning of the model proposed several key principles have to be adhered to, namely: consistency, adaptability, comprehensiveness, regularity, objectivity, efficiency, accuracy and operability (Fig.5).

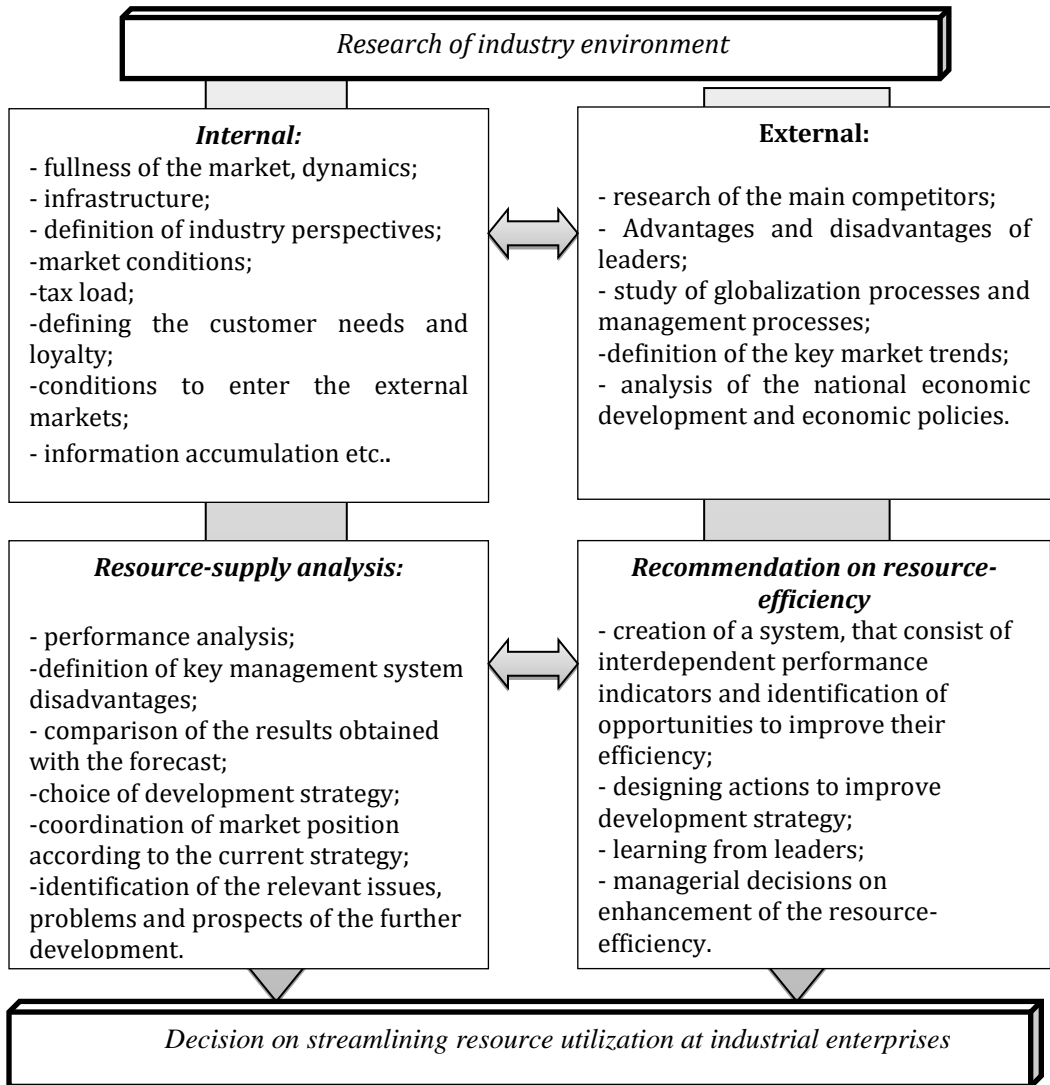


Fig. 5. Algorithm of management decisions concerning rationalization of the use of resources (offer authors)

The algorithm given is defining and crucial, hence the process of evaluation of resource usage efficiency is cyclic and continuous. It stresses the necessity to develop several proposals and actions designed to improve the use of resources management. The latter depends on the level of development and innovativeness of the general management system, efficiency of forming and use of the resources available so that to reach a synergetic effect (Fig. 6).



Fig. 6. Developing the proposals to implement the resource-efficiency model for industry (offer authors)

Thus it should be mentioned that the aforementioned proposals and recommendations are to be designed with accordance to the market specifics. Taking into account the results of researches one can list crucial components of the process that develop actions, inherent to industry, such as: evaluation of implementation opportunities, economic reasonability,

corrections to the specifics of activity and strategic goals, as well as development of the improvement methods. It will result in the definition of further development perspectives and economic reasoning of the proposals designed.

Furthermore, it is necessary to define the scope of implementation and efficiency of the management decisions on the use of resources available through comparison of the actual performance results with the prognosed ones (Fig. 7).

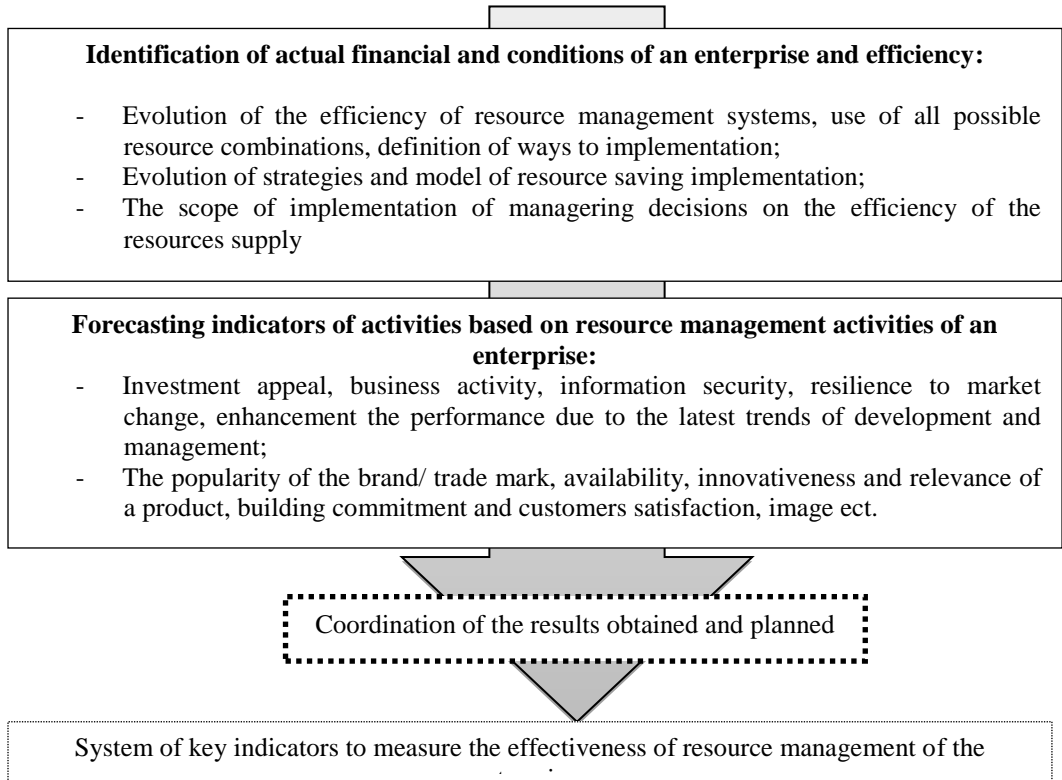


Fig. 7. Efficiency evaluation of the industry resource-saving model implementation
(offer authors)

Additionally it is worth mentioning that the prognosed drivers will be different for each economic entity due to its current indicators, market share and strategic goals. During this stage it is necessary to find out the resource asymmetries that could be used to improve the competitive advantages. Consequently, the actual results of the use of resources is to be defined through key indicators of the economic activity of an enterprise. We also stress the reasonability of the key efficient resource supply indicators system, that are crucial for the innovative resource-efficiency model performance. The system we propose defines the following:

- management capital indicators, that characterize prospects, investment appeal, competitiveness, development perspectives and efficiency of the economic activities due to the management experience;

- consumer capital indicators, that characterize mutual connections between an enterprise, clients and supplies, as well as the efficiency of management links between them;
- technological component indicators, that characterize the level of technological process modernization and development of the innovative product;
- competence, information provision and security indicators, that show the level of competence of the management subsystem, adaptability to the competitive environment changes and informational foundation.

To sum up the theses above, we suggest to evaluate the efficiency of the resource-supply of the economic activities in industry on the following basis: balance of stakeholder interests, according to which all the competitive advantages are evaluated through the strategic development looking glass.

The research conducted defined the relevance of resource-efficiency policies and introduction of the innovative model so that to enhance profitability, improve the competitive position, increase customer loyalty, market share and business value in general, laying the cornerstone for the development strategy of industry entities in current economic conditions.

Conclusions and suggestions

In the periods of uncertainty and economic turmoil efficient management and use of resources become a precondition of achieving strategic goals, long-term development programs, a prospective direction of performance improvement and an instrument to enhance competitiveness of any enterprise. Creation of efficient, adapted to current conditions of industrial connections development, mechanisms of industrial management are impossible without complex resource management, i.e. resource supply for economic activities as a part of management system.

Thus, innovative resource-efficiency model is to be regarded as a complex of decisions, directed at managerial actions to forecast, create and implement resource-efficiency policies, taking into account resistance to changes, designed to use and recreate resources efficiently. Implementation of the suggested resource-efficiency model for industry is possible only on the basis of innovative management, that includes use of the principles, methods and forms of the resource management by the economic entities.

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