

## The Balanced Scorecard as a Tool to Develop Business Education at Leading University

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### Abstract

The article deals with the relevant issues concerning innovative development of education system. It describes the role of business education in development of innovative economy. The role of the Balanced scorecard in enhancing business education is defined. The Balanced scorecard performance indicators for a leading university are evaluated.

**Key words:** innovative economy, business education, Balanced scorecard, strategic management, performance indicators.

### Introduction

One of the main peculiarities of the 21<sup>st</sup> century is the transition to the knowledge-based economy which is characterized by information society, converting information into the source of economic growth and excess profit. Security of the State is inseparable from the economic prosperity of the nation, while labor force is a main industrial factor, index of innovative development of the economy. Therefore, the task of each person is as effectively as possible to apply his/her knowledge and acquire new one by means of education.

This kind of behavior towards investments into human capital should be supported by the government, as it is one of the most important tasks of the economic policy of any developed country. Put it otherwise, today human capital should be regarded as a main factor of economic growth as aging of knowledge is as rapid as information updating. Therefore, there is need for continuous staff training, long-life learning based on new technologies and education programmes that meet the requirements of the present economy. Investments into the human capital is a multilevel process.

However, it is required to define the role of the balanced scorecard in development of business education. Improvement of university efficiency is one of the main tasks that faces university rectors. One of the main conditions for developing competitive university is revision of business education. This area of education should be constantly updated in terms of technologies, innovations and rapid adjustment to the needs and requirements of the ever-changing world. High-quality education is still one of the most significant life values of citizens and determining factor in securing social justice and political stability.

### 1. The role of business education in innovative development of economy

Business education is a professional education which implies training people who are involved in management of various companies operating under the market conditions and focusing on profitability.

Today, in the system of higher education one of the most important aspects that secures functioning of the entire systems is assurance of such conditions when universities meet the most relevant and urgent requirements of the society. To improve the efficiency of

university management and advance the area of business education, there is a tool which is applied as a Balanced scorecard system. This system is based on the cause-effect relationship between strategic goals reflecting their parameters and factors that influence achievement of the results. Therefore, one of the main issues relating to university development is university efficiency improvement and effective application of its intellectual and scientific potential for securing constant updating of the national economy. This problem can be also solved by developing business education and activating integration of universities into real sector of the economy.

Today, the balanced scorecard system based on the cause-effect relationship between strategic goals reflecting their parameters and factors influencing result achievement is a promising tool of strategic management.

### 2. Economic tools for planning education development

The Balanced scorecard is a system of strategic enterprise management which implies the assessment and evaluation of its efficiency on the basis of a set of optimally selected indicators. The indicators reflect all the aspects of enterprise performance: financial, manufacturing, marketing, innovative, investment-related, managerial, etc.

The Balanced scorecard is a tool for strategic management which allows linking business unit performance with its strategy. It reflects the balance that should be secured between short-term and long-term goals, financial and non-financial indicators, basic and supplementary parameters, as well as external and internal performance factors.

According to the aspects of business unit performance, the interlinked indicators are formed. These indicators supplemented by the system of personnel evaluation and motivation are applied at all the levels of the business unit structure – from the top to the bottom. In this case, it is possible to define financial aspect as a basis of the system, while customer one – as a priority of the system. It happens so because it is the

customer aspect that is able to show success in achieving the goals set by the university authorities (fig. 1).

Focus on consistency and harmonization in the strategic management is a crucial methodological principle that allows improving management efficiency. The basic idea of the Balanced scorecard is to balance the system by means of four integral elements or criteria.

**1. Finance.** It is a traditional part of almost any model of management efficiency evaluation. Predominately, it is of particular importance for commercial organizations, however, it can be adjusted to the specific features of a company, namely university. In this case, this criterion is no longer the most significant one.

**2. Custome.** According to the Balanced scorecard, this criterion is considered with regard to the market sectors within which the organization operates, in our case it is a sector of education services. When it comes to higher education, this criterion becomes the most important one, as its values show success in achieving the goals set by university authority. The client criterion includes several basic indicators which are crucial for the undertaken strategy. They are as follows: customer satisfaction, expansion of client base, volume and share of target market sector.

**3. Internal business processes.** Based on the indicators of this criterion, internal processes which affect customer satisfaction and financial goal achievement are estimated. According to this criterion, innovative processes are regarded as an integral part of organization performance. For any organization, regardless of the economic sector concerned, ability to manage the development of new products and services, as well as possibility to attract new clients may become more crucial for success achievement in the long term in comparison with the effective management of the existing process.

**4. Education and personnel development.** This criterion defines the infrastructure to be created in order to

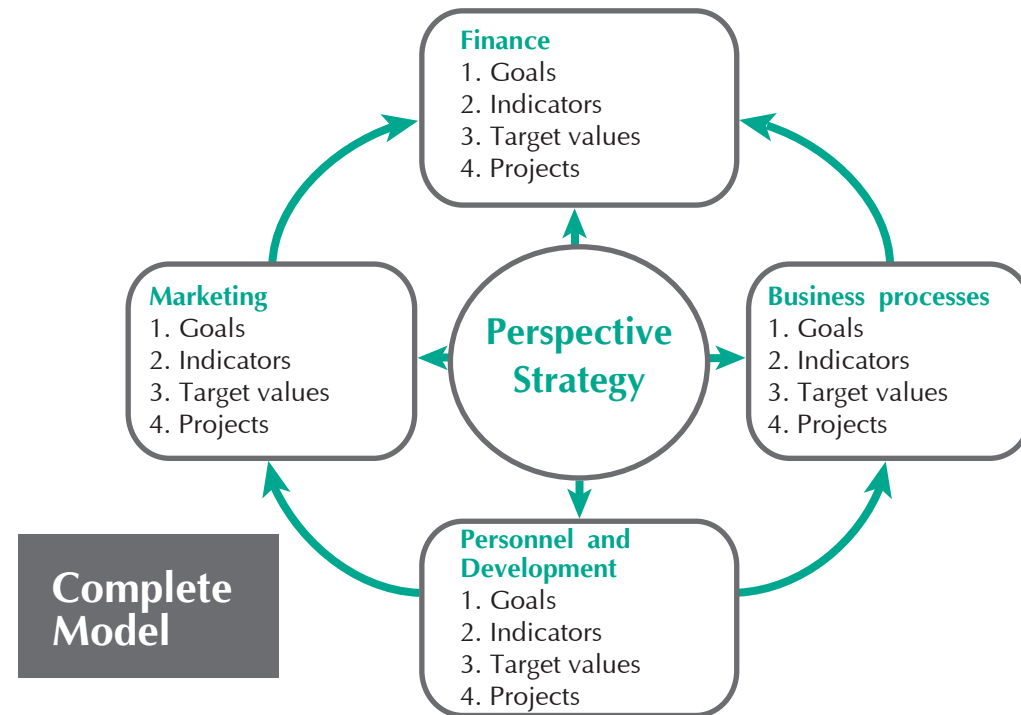


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Fig. 1. Complete model of Balanced scorecard



secure the growth and advancement of organization in long term. The above-described criteria incorporated into the system include the indicators that are the most significant for development of present and future business processes ensuring organization performance. However, it is impossible to achieve long-term goals using only present-day technologies. Therefore, it is required to provide corporate education aimed at enhancing personnel qualification and their career growth. According to the education and personnel criterion, there are three main sources of formulating goals, tasks and indicators within the entire system of organization's goals and tasks: people, systems and organization's procedures. Based on the earlier-described criteria, a significant gap between people, their abilities, systems, procedures and the required breakthrough is identified. To eliminate the gap, it is necessary to invest in retraining and personnel development, continuous enhancement of the applied technologies, information transmitting

and processing systems, development of relationship mechanisms between strategic goals and everyday procedures. This last criterion is intended to link all the aspects of organization performance, which is of particular importance in terms of building and implementing the balanced system in the organization. Like indicators of the client criterion, indicators of education and personnel development are a set of general indicators, such as job satisfaction, staff turnover, education and personnel development costs, and specific indicators related to the certain activity. It is often a set of skills and abilities that personnel should have in a rather competitive environment. The time lag in receiving information about clients and internal business processes which are essential for taking strategic and tactic decisions is an indicator of possibility to enhance the information systems.

### 3. Goals and tasks of education system innovative development

The main goal of the Balanced scorecard system is comprised of the following tasks:

- do develop such management system that allows systematically implementing strategic plans by converting them into the language of operations management and monitoring the strategy implementation by means of the key efficiency indicators;
- to elaborate efficiency indicators for high-level managers including the tasks and indicators of low-level managers according to the structural-functional approach;
- to implement the strategy by effective functioning of all departments which are managed by means of planning, control and analysis of the scorecard, as well as personnel motivation;
- to eliminate the gap between organization's goals and their operational implementation, as well as rapid response to the changes;
- to link the organization's goal with personnel activity.

The origin of Balanced scorecard can be traced back to 1990 when Nolan Norton Institute suggested developing performance indicators for organization of the future as the existing approaches to assessing organization performance had been already outdated. The project was supervised by David Norton, a director of Nolan Norton Institute, and Robert Kaplan. During the first year project members and representatives from numerous companies (financial, manufacturing, service, heavy industry and high tech) together discussed the content of a new performance measurement model. They examined various innovative systems of performance evaluation, revised and improved them. Alongside enhancement of the traditional indicators, namely, business activity indicators, absolutely new ones were developed: customer delivery times, quality and cycle times of manufacturing processes, new product development efficiency, enhancement indicators, teamwork indicators, indicators of leadership efficiency, etc. In the course of project implementation, numerous ideas about the content of indicators were proposed. For

example, there was an idea to consider the indicators of value creation for stockholders, however, the researchers came to the conclusion that multi-functional system of organization performance evaluation is the most optimal one. It was further termed as "Balanced scorecard system" and was comprised of four main elements: financial, customer, internal, and innovation and learning (fig. 2).

The Balanced scorecard is not just a simple system to monitor, evaluate and improve personnel performance, it is a serious analytical tool, implementation of which requires much time and effort. However, it could allow organization leaders and top-managers to achieve the desirable results and focus their efforts within a highly competitive environment of the present.

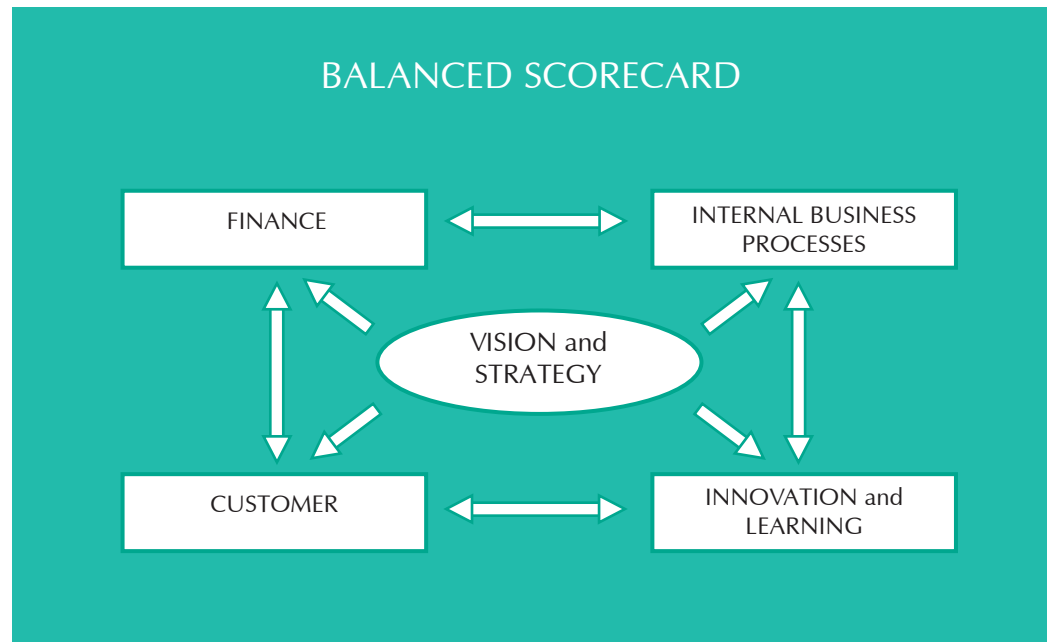
Due to the Balanced scorecard, it is possible not only to analyze the financial results, but also to generate new possibilities and regulate acquisition of intangible assets for further growth.

Today, enterprises related to various market sectors are at the very epicenter of revolutionary transformations. The epoch of industrial competition is currently being replaced by informational one, when the main focus is put not on making maximum profit at minimum cost, but on the implementation of new information technologies, optimal and effective use of intangible assets, integration of business processes, management enhancement, etc.

Thus, the Balanced scorecard enables managers to bring together the strategy of organization and a number of interconnected indicators developed for each management level. The main intended purpose of the system is to enhance business strategy by translating it into a comprehensive set of measures, involving each employee, constant monitoring and feedback in order to trace and generate initiatives inside the structural departments.

The main idea of introducing the Balanced scorecard into university deals with presenting of university's strategies in terms of the indicators of effective goal

Fig. 2. Elements of the Balanced scorecard



achievement (fig. 3). The system of indicators serves as a coordinate system, in which goal is formulated as targets for key performance indicators and strategic plan is compiled as a trajectory towards the goal in time. In this case, the Balanced scorecard serves as a trajectory towards effective implementation of business education programmes.

**4. Experimental evaluation of Balanced scorecard parameters for leading university**

To develop the Balanced scorecard, it is required to identify its integral blocks and describe them in accordance with the peculiar features of State autonomous education institution (table 1).

In this model the finance element is the basic one which secures achievement of the goals within the other blocks of the Balanced scorecard. The main focus would be put on the customer block and industry. The latter implies interaction with the companies with regard to the joint educational and research activities.

**Customers:**

- Implementations of measures aimed at supporting students, post-graduates,

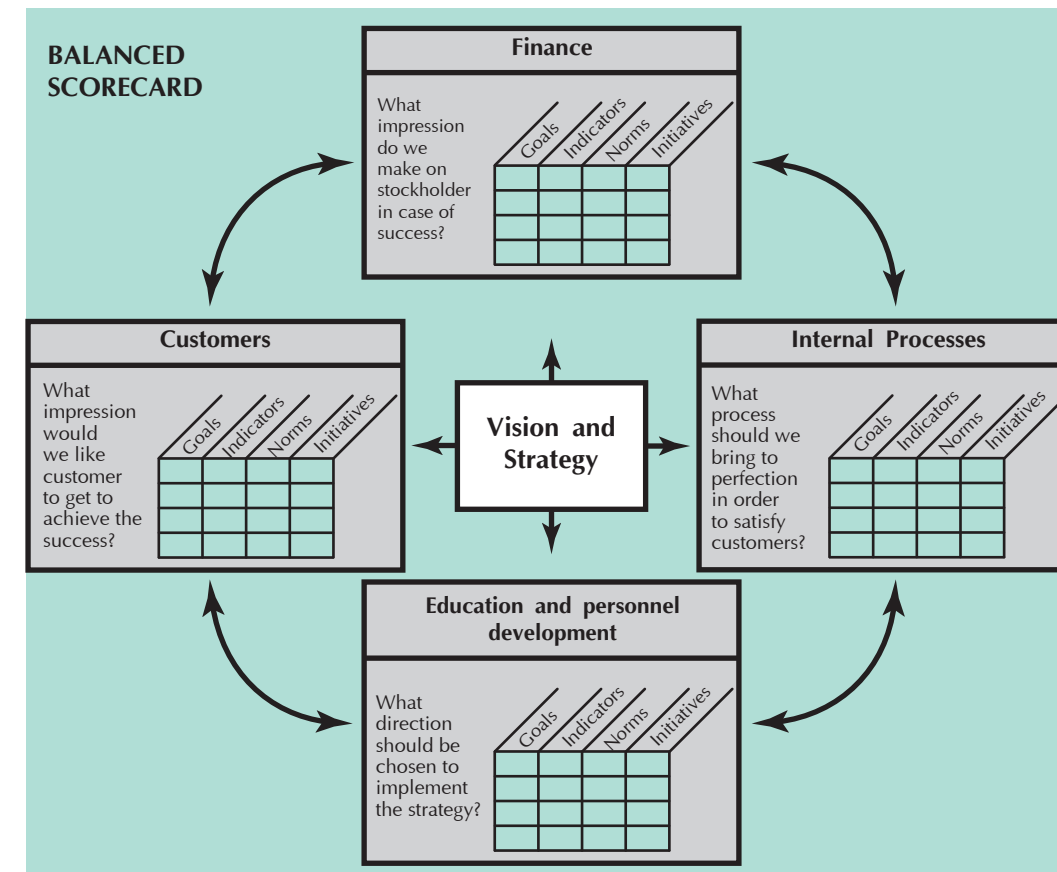
trainees, young scholars and faculty staff.

- Introduction of new education programmes in cooperation with the leading foreign and Russian universities and research institutes.
- Enforcement of measures to attract students from leading foreign universities to study at Russian universities by means of joint education programmes and university associations, as well as to attract school leavers who demonstrate creative skills and interest in research.

**Industry:**

- Implementation of measures to attract young people who have already gained experience in research and teaching activities at the leading foreign and Russian universities, as well as research institutes.
- Research in accordance with the long-term program for basic scientific research at the universities of the Russian Federation and priorities in the international fundamental and applied research.

Fig. 3. Balanced scorecard for university



**Internal processes:**

- Implementation of measures to enhance post-graduate and doctoral programs.

**Personnel:**

- Enforcement of measures to form the candidate pool of university top-managers and attract specialists to the top positions who have working experience in leading foreign and Russian universities and research institutes.
- Implementation of international and internal Russian mobility programs for university staff in terms of internship, advanced training, professional re-training, and etc.

The Balanced scorecard is developed on the general bases and implies converting of the university strategy into the goals,

indicators, norms, and initiatives within each block (table 2). The strategy of National Research Nuclear University “MEPhI” is to become a global leader in education, science and innovation, precisely in nuclear, radioactive, information, nano-scale, bio-medical technologies and their engineering, as well as to significantly contribute to developing state corporation “Rosatom” and other Russian leading high-tech companies.

The indicators which characterize each block of the system are set for each goal. Based on these indicators, the strategy map of the Balanced scorecard is built. It is a model which brings together intangible assets and value creation.

The analysis of the Program of increasing competitiveness up to 2020 and possible

Table 1. Balanced scorecard elements, targets, and indicators for National Research Nuclear University "MEPhI"

№	Balanced scorecard elements	2015 (performance)		2016 (performance)		2017 (target)	
		at the expense of subsidies	at the expense of extrabudgetary resources	at the expense of subsidies	at the expense of extrabudgetary resources	at the expense of subsidies	at the expense of extrabudgetary resources
1	2	3	4	5	6	7	8
1	Industry	0,53	0,51	0,50	0,61	0,35	0,76
2	Internal processes	0,01	0,00	0,01	0,00	0,01	0,00
3	Personnel	0,23	0,05	0,31	0,09	0,38	0,09
4	Customers	0,23	0,44	0,18	0,30	0,26	0,15
	Total	100%	100%	100%	100%	100%	100%

ways of cooperation between "MEPhI" University and business structures (state corporations, leading scientific centers, companies and enterprises) makes it possible to predict the share of business education within engineering education programmes. By the example of "MEPhI" University, this share should account for 10-15%. It has been revealed that there is an urgent need for elite engineering staff, interdisciplinary specialists focused on implementing international business projects into nuclear industry. The road map includes the relevant chapter (2.1) which presents the norms and regularities for international project implementation.

**Conclusion**

In modern conditions, only those universities which are ready to introduce more effective and innovative tools of strategic management can survive and effectively operate in the market of higher professional education. The Balanced scorecard is one of such tools. The current study was aimed at clarifying the way to implement this system in order to develop business education.

The Balanced scorecard system has been successfully used in commercial sector. The findings of the study have revealed that the Balanced scorecard could be adjusted to the sphere of higher professional education in Russia. Introduction of this system into education has several peculiarities, as it is necessary to consider a number of factors: impact of legislation system; state order, and consumers' needs.

According to the strategy of National Research Nuclear University "MEPhI", the strategic goals have been identified. These strategic goals compose the cause-effect relationship of key efficiency indicators which, in turn, show the success of the entire strategy. The proposed model of the Balanced scorecard demonstrates that achieving one goal would contribute to developing the entire business education. It is proposed to use five main blocks: finance, industry, customers, internal processes, and personnel.

The main conclusion that can be drawn based on the analysis of the Balanced scorecard indicators as a system of strategic

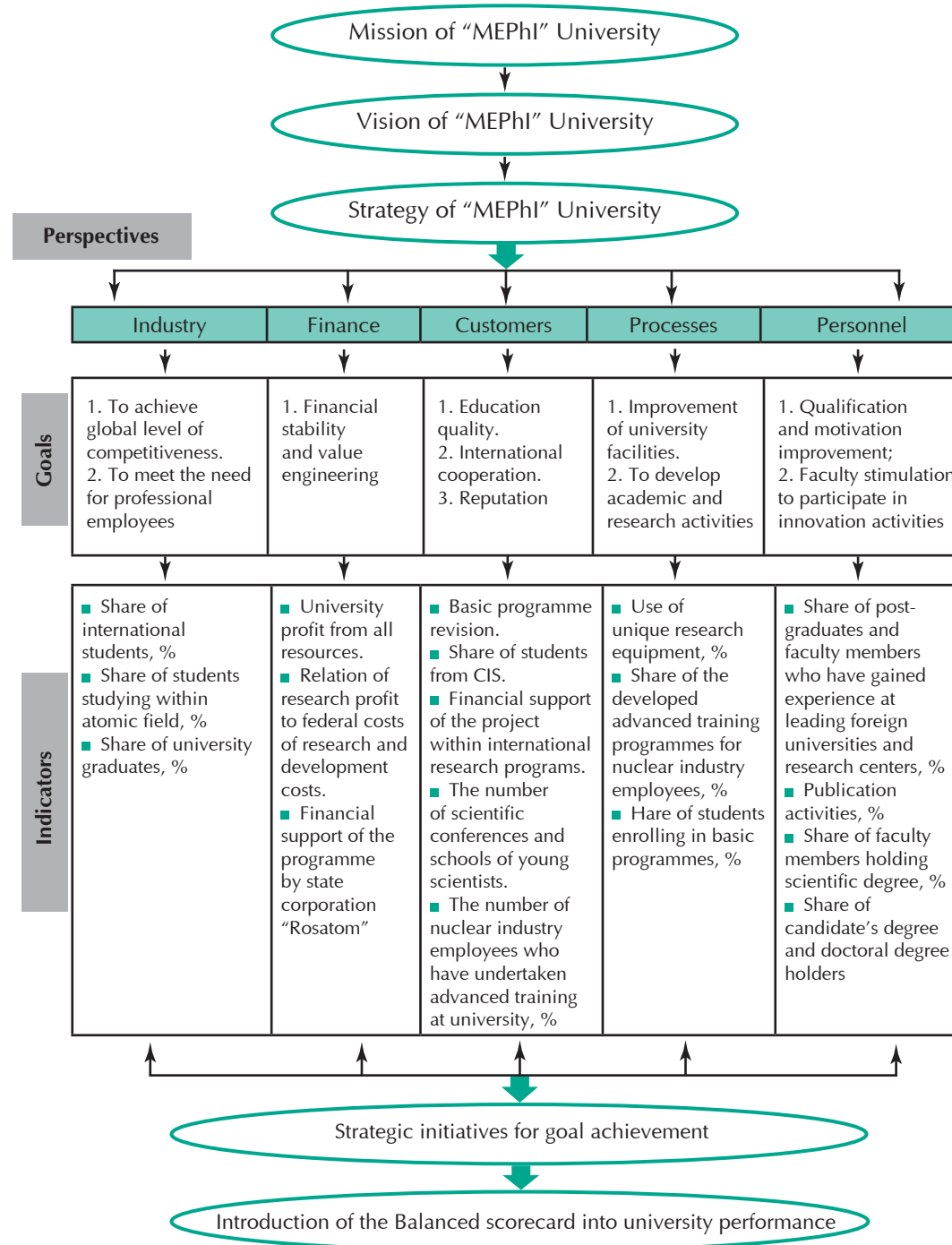
Table 2. Strategic goals according to the integral block of Balanced scorecard for National Research Nuclear University "MEPhI"

Balanced scorecard blocks	Strategic goals
Industry	<ul style="list-style-type: none"> <li>■ to achieve global level of competitiveness;</li> <li>■ to meet the need of industry and state for professional employees;</li> <li>■ to ensure high quality education.</li> </ul>
Internal processes	<ul style="list-style-type: none"> <li>■ to develop academic and research activities;</li> <li>■ to develop quality management system;</li> <li>■ to enhance information support;</li> <li>■ to improve university facilities.</li> </ul>
Personnel	<ul style="list-style-type: none"> <li>■ to provide faculty with constant advanced training and motivation;</li> <li>■ to stimulate faculty to participate in innovation activities.</li> </ul>
Customers	<ul style="list-style-type: none"> <li>■ targeted training;</li> <li>■ education quality;</li> <li>■ international cooperation enhancement;</li> <li>■ service competitive price;</li> <li>■ reputation of National Research Nuclear University "MEPhI".</li> </ul>

management is that the efficiency of introducing the Balanced scorecard into National Research Nuclear University "MEPhI" is due to the fact that it enables university managers to visualize the

development strategy of the university, achieve the strategic goals, which, in turn, contributes to developing business education. The proposed Balanced scorecard can be adjusted to any university.

Fig. 4. Balanced scorecard of “MEPhI” University



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