

# Approaches of Using a Balanced Scorecard Method for University Management in Russia

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**Abstract** — The trends of the modern economy show us how the volume of changes in the modern economy and society is increasing. Along with it, there are increasing uncertainty and competitive tensions in markets, the complexity of production processes, the importance and level of influence of intangible efficiency factors and with it the complexity of managing organizations. University management is no exception. Obviously, ensuring its effective functioning and development in a modern, highly competitive environment requires that each of its divisions, units, each of its levels correspond to certain parameters and ensure the achievement of certain results. The article presents the author's concept of a methodology for the formation of a balanced scorecard (BSC) in the field of higher education. For this, there was analyzed the background to the emergence of this approach, its idea and purpose, its advantages and disadvantages. It was established the reasons of its popularity in the world and there were analyzed the approaches to use in universities.

**Keywords:** BSC, balanced scorecard, education, university, BSC methodology, BSC method

## I. INTRODUCTION

Currently, one of the leading strategic accounting and analytical tools for university management is the balanced scorecard (BSC), which allows us to consider their mission and overall strategy through a system of clearly defined goals and objectives, as well as indicators determining the degree of achievement of these goals. The success of the achievement of the strategic goals of the university is largely determined by the possibility of coordinating the strategic and operational management. In other words, it depends on the correctness of the decomposition of strategic management to the level of operational activities of each university employee. This task can be solved by developing a system of interrelated indicators at different levels of management, allowing to assess and monitor the effectiveness of the implementation of the university development strategy. According to American researchers, BSC technology is the most significant management tool for the last 75 years and has been successfully used for these purposes as a new tool for managing the implementation of the strategy in business since the 90s of the twentieth

century [1] [2.] A feature of the balanced scorecard (BSC) method is the strategic management, based on the analysis of the received information and the information exchange of company employees. BSC assumes that knowledge of information, knowledge of the goals of the organization, the goals of its divisions increases the motivation of employees; the company's management allows them to respond flexibly to the slightest changes in the external and internal environment and, consequently, increases the competitiveness of the organization. The purpose of this article is to analyze the implementation of the BSC in educational institutions. To achieve this goal, it is necessary to solve the following tasks:

- Identify the advantages, disadvantages and reasons for popularity of BSC;
- To explore the approaches of building a balanced scorecard for an educational institution;
- To analyze foreign and Russian universities that have introduced a system of balanced indicators.

The Balanced Scorecard (BSC) is a modern tool for the strategic management of an organization, allowing it to implement the organization's strategic plans, converting them at the level of operational management and controlling the implementation of the strategy based on key performance indicators (KPI) of activity. Strategic management requires measuring not only financial, but also non-financial results. It is necessary to measure the effectiveness and results of strategy implementation. To transform from an abstract idea into real action, the strategy requires measurement and evaluation. This is necessary in order to have certain criteria for choosing the optimal strategy from several alternatives, analyze the effectiveness of deploying and implementing the strategy, research its results and make appropriate management decisions. It is possible to control only by what can be measured - the basic principle of the BSC, which has become the reason for the high efficiency of this technology. Goals can only be achieved if there are quantifiable indicators that tell managers at various levels what needs to be done.

**II. ADVANTAGES, DISADVANTAGES AND REASONS FOR POPULARITY OF BSC**

*A. Advantages of BSC*

The BSC method has obvious advantages. It allows to scale strategic goals and objectives by level and translate them into concrete actions, fixes the connection of resources, potential, actions and results, adequately reflects the current level of achievement of targets, provides an understanding of the strategic goals of the organization to all participants in the production process, facilitates their interaction, provides timely detection of weak spots, helps to convert a large array of data obtained from a variety of information systems of the enterprise, in the information available for understanding.

*B. Disadvantages of BSC*

However, its disadvantages are obvious. In the case of several stakeholders, the organization has a problem of multicriteria optimization, which is not even put in the BSC methodology. The same problem arises in the case of a multi-disciplinary organization. Also, there is a probability of occurrence of mutually exclusive tasks and indicators at individual levels of management and is not solved the problem of assessing the functional significance of causal relationships between indicators.

BSC is based only on the generation of direct positive effects and does not take into account the possibility of generating new strategic performance options. Also, BSC is not adapted for accounting and modeling of uncertainty and risks of the organization’s strategic development.

*C. Reasons for popularity of BSC*

Nevertheless, the BSC methodology is popular in the business community, and the reasons for this are:

- Allows to overcome the “strategic gap” between the goals of the organization’s development and its current activities;
- Allows to adjust internal processes, maneuver resources and build capacity in accordance with strategic goals;
- The grouping of indicators in the BSC is actually based on the stages of the reproductive cycle (pre-production, production, sales, capitalization), which gives a comprehensive comprehensive description of the effectiveness of investment, market niche, business processes and resources of the organization;
- The process of building a strategic card BSC gives the entire complex of planned indicators system integrity

**III. APPROACHES OF BUILDING A BALANCED SCORECARD FOR AN EDUCATIONAL INSTITUTION**

Many researchers in the field of management of higher education agree that a radical transformation of the system of higher education is currently taking place in the world, which entails an increase in competition between

universities at the regional and global levels [3]. Changing institutional conditions in the higher education system poses new challenges for universities. There are becoming competitive universities that use modern management technologies and concepts. Widespread in the management system of universities is BSC, which allows to design strategic goals at the levels of operational management of the university [4].

BSC was developed by American economists, director of the Research Institute of the North Institute, David Norton, and Professor of Harvard School of Business Robert Kaplan in the early 1990 and was used in large international commercial companies [2]. The difference between the MTP and the previous management concepts was the use of performance measurement methods based on non-financial indicators.

Building a balanced scorecard is a gradual (step-by-step) process. There are defined a complex set of indicators, characterizing the state of affairs at the enterprise at the initial stage. The next stage is to build a strategic map, which is an integral part of this system. Applying a strategic map, the organization takes a comprehensive approach to building a strategy. As a rule, a strategic map consists of four components: a financial component, a client component, a component of internal business processes and a component of personnel training and development [5].

*a) The balanced scorecard system has been actively introduced into foreign and Russian universities in recent years. There are presented the main activities for each component of the BSC universities in Table I.*

TABLE I. ACTIVITIES CONDUCTED BY THE UNIVERSITY WITHIN EACH COMPONENT

<i>BSC component</i>	<i>Activity</i>
Financial component	Search for extra budgetary sources of financing. (For example, grants, expanding the range of paid educational and other services, business contracts, etc.)
Client component	Three groups of clients are defined: applicants and students, their parents as well as potential employers. The main goal is to satisfy the needs of these client groups.
Component of internal business processes	The introduction of innovative teaching methods, innovative methods of university management, etc. [6]
Component of staff training and development	The relationship of human, informational and organizational capital. Advanced training of staff as one of the main goals within this component [7]

[8] Fedorova E. P., Boyeva K.V. Experience of implementing a system of Balanced Scorecard in educational institutions. *Baikal Research Journal*, 2016, vol. 7, no. 6. DOI: 10.17150/2411-6262.2016.7(6).14. (In Russian)

In universities, whose socio-economic function is not limited to the category of educational services, but includes scientific research, experimental development, consulting, etc., the use of the BSC methodology for the implementation of development strategies and evaluation of

strategic effectiveness may be limited at the level of individual faculties and departments.

To control the activities of the university, based on key success factors, it is necessary to determine KPI indicators, which can be absolute and relative. For a number of indicators, their dynamics is also important. The Table II shows the developed BSC for university departments. The KPI values are set taking into account the capacity and resources of the organization and the identified development trends in the future. At the next stage of setting the BSC, in addition to the goals and objectives, it is also necessary to define initiatives, budget and responsible ones.

TABLE II. BSC TABLE FOR UNIVERSITY DEPARTMENTS

<i>BSC projections and strategic goals</i>	<i>KPIs</i>
Projection "Finance" <ul style="list-style-type: none"> <li>income sustainability due to growth in paid services, contractual works, grants.</li> <li>cost structure optimization.</li> </ul>	1. The amount of income per 1 employee of the teaching staff is not less than a certain amount. 2. Not exceeding the planned cost estimates.
Projection "clients" <ul style="list-style-type: none"> <li>mastering students with practice-oriented knowledge, competencies and entrepreneurial thinking.</li> <li>achievement of the required degree of satisfaction of parents and employers with the level of competitiveness of student preparation.</li> </ul>	1. Achieving the quality of education at a certain level. 2. The participation of students in projects (innovative, complex, etc.) is no less than a certain level. 3. The indicator of parental satisfaction with employment of a competitive graduate is no less than a certain level. 4. Employer satisfaction indicator is no less than a certain level.
Projection "internal business processes" <ul style="list-style-type: none"> <li>high-quality and timely training of teaching materials in all disciplines - organization of the educational process in a new innovative format.</li> <li>development of basic departments and strengthening practical orientation of education.</li> <li>introduction of BSC into the practice of the department and its integration with the motivation system of the faculty of the university.</li> </ul>	1. Development of teaching materials by the beginning of the school year. 2. Number of initiatives to organize the educational process in an innovative format Number of initiatives to organize the educational process in an innovative format. 3. The mobility index in teaching new perspective disciplines is no less than a certain number of courses per semester by attracting highly qualified teachers from other regions and countries. 4. Development of indicators based on the construction of each employee personal BSC.
Projection "learning and development" <ul style="list-style-type: none"> <li>involvement of all teachers in the system of modern organizational training and participation in the creation of corporate universities in regional enterprises.</li> <li>provision of an effective personnel appraisal system based on a rating or other motivation system of staff.</li> </ul>	1. Improving the qualifications of teachers - at least a certain number of certificates per year for 1 teacher. 2. Stimulating allowances to teachers participating in the system of determining the university teachers rating. 3. Achieving the loyalty of the department staff is no lower than the university average. 4. The indicator of effective building relationships with students is not lower than the university average.

<i>BSC projections and strategic goals</i>	<i>KPIs</i>
<ul style="list-style-type: none"> <li>developing staff loyalty and student partnerships.</li> </ul>	

Source: Made by author

IV. ANALYSIS OF FOREIGN AND RUSSIAN UNIVERSITIES THAT HAVE INTRODUCED A SYSTEM OF BALANCED INDICATORS

An analysis of reliable sources of information and publications suggests that the problem of the applicability of BSC methodology in universities exists, it is discussed and that individual universities try to experiment with it in different scales and with different levels of success. I would like to provide data of 12 foreign and 8 Russian universities, which show that high-ranking universities also apply to the BSC methodology (Cornell, Edinburgh, California, MSU), included in the first hundred QS rated, and very little-known universities Table III.

TABLE III. UNIVERSITIES APPLYING BALANCED SCORECARD IN MANAGEMENT

<i>№</i>	<i>University</i>	<i>Position in QS rating</i>	<i>country</i>	<i>The scale of use of BSC</i>
1	Cornell University	14	USA	Separate departments
2	University of Edinburgh	18	Great Britain	Whole university
3	University of California at Berkeley	27	USA	Separate departments
4	University of California at Los Angeles	32	USA	Separate departments
5	University of California at San Diego	41	USA	Separate departments
6	University of Washington	66	USA	Separate departments
7	Ohio State University	89	USA	Whole university
8	Pennsylvania State University	95	USA	Separate departments
9	University of California at Davis	100	USA	Separate departments
10	University of California at Irvine	169	USA	Separate departments
11	University of Twente	172	Netherlands	Whole university
12	University of Florida	180	USA	Library
13	Moscow State University	90	Russia	Separate departments
14	Siberian Federal University	800-1000	Russia	Separate departments
15	Vladivostok University of Economics and Service	N/A	Russia	Whole university
16	Dagestan State University	N/A	Russia	Whole university
17	Altai State Technical University Name by Polzunov	N/A	Russia	Whole university
18	Vladimir State University	N/A	Russia	Whole university
19	Northern State Medical University	N/A	Russia	Whole university
20	Penza State University of Architecture and Construction	N/A	Russia	Whole university

Source: [10] The World University Rankings URL:<https://www.timeshighereducation.com>

Only about 45% of universities from this list are experimenting the BSC methodology across the Whole university, and 55% prefer to implement this planning and management methodology for individual departments, services and faculties (Fig. 1.).

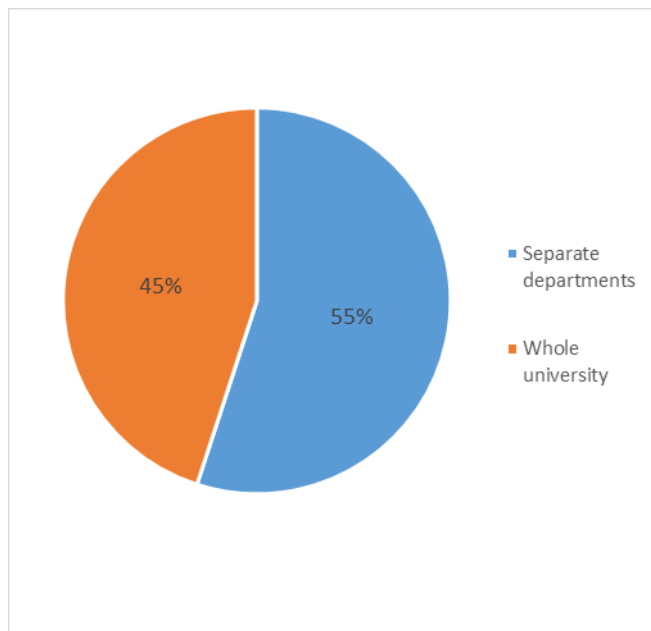


Fig. 1. The scale of use of BSC (made by author)

#### V. CONCLUSION

Universities with a sharper understanding of their subjectivity of market relations, whose incomes are determined solely by the volume of educational services sold, are more boldly experimenting the BSC methodology. The BSC method has limited use in those universities or their divisions where, in addition to a request for educational services, society has a request for a scientific product, experimental development, consulting, etc. Russian universities have a lot of operational indicators of departmental accountability, which may be very indirectly related to their development strategy, but must be binding. The implementation of the methodology of the BSC is hampered by the phenomenon of organizational opportunism that is widespread in universities. The use of

the BSC methodology in modern conditions requires serious development in order to take into account strategic multicriteria, functional dependence of indicators, uncertainty of decisions and risks.

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