OPEN INNOVATION: CHALLENGES OF THE MODERN WORLD FOR UNIVERSITIES OF REPUBLIC OF MOLDOVA

Dorogaia Irina
Doctor, conferențiar universitar, e-mail: dorogaia.irina.ion@ase.md

Relevance: The modern operating environment of organizations is pushing companies towards new approaches to doing business, including the stimulation and development of innovation. This new view of the development of innovative activities is "open innovation", which is widespread in foreign companies and to a less extent among Moldovan entrepreneurs. In addition to entrepreneurial organizations, any organization, including an educational institution, can use the experience of "open innovation".

The aim of this work is to reveal the essence of "open innovation", to confirm their advantages over the traditional approach, and to demonstrate the viability of open innovation on the example of educational institutions participating in the MHELM project.

The main research methods include: *comparative analysis, synthesis, observation, abstraction, ascent from the abstract to the concrete.*

The results of the study underline the importance of the use of innovations by private and public organizations. One of the modern approaches to innovation is open innovation, the importance of which is confirmed by the success of many companies that apply them in practice.

Key words: *innovation, open innovation, innovation management, traditional approach, stimulation of innovation, educational institutions, innovation effect.*

JEL CLASIFICATION: O36, O35, A13

1. Dynamics changes - impetus to change the paradigm of education

The main feature of the modern environment is its constant change. Change is becoming more unpredictable and dynamic, and company managers are generating new approaches to operating in order to survive in difficult conditions and achieve success. Moreover, this feature applies both to private organizations with the goal of making a profit, and to non-profit organizations, government agencies, and of course, not least important, higher educational institutions.

National universities are faced with a large number of problems that were not so much expressed in previous periods of activity:

- ✓ this is a decline in the young population connected with migration processes,
- ✓ an increased interest in education abroad in order to stay in a job and stabilize life abroad,
- ✓ this is also a general decline in interest in education due to an increased interest in "fragmentary education" provided by the Internet space.

In many cases, the problems associated with declining interest in higher education boil down to a large difference between what students consider necessary and relevant to study and what they actually study. All of these moments prompt management personnel to take a fresh look at the education paradigm.

To form a fundamentally new approach, it is necessary to ask global questions about the goals, priorities, strategic alternatives and opportunities of the Higher Education Institutions of the Republic of Moldova. For this purpose, a consortium of representatives of the management personnel of seven universities of the Republic of Moldova was formed, with the support of representatives of the leading universities of the European Union. This consortium was created within the framework of a project MHELM – *Moldova Higher Education Leadership and Management (**Reference number: 609656-EPP-1-2019-1-MD-EPPKA2-CBHE-SP**),* funded **with support from European Commission with in Erasmus+ programme**.

The main goal of the project is "Strengthen the governance, strategic planning and management in Moldovan universities in order to support the sector reform through increases in leadership and management capacity and capability" [1]. The project is aimed at rethinking the most important aspects of the activities of universities in Moldova through the development of educational programs for the management of universities and their implementation for the search and development of talents both among current leaders and among potential ones.

"The nine domains covered in the framework include leadership, managing resources, managing people, managing information and intelligence, as well as personal attributes such as drive and productivity. Using this framework to underpin the structure of the new programme will ensure the full range of qualities and skills needed for the good governance of higher education institutions". [1]

2. The concept of open innovation for universities

The concept of open innovation is relatively new. The importance of relationship management and partnerships in the business world was talked about somewhere in the 1960-1970s, while the term "open innovation" itself appeared much later. Its appearance dates back to 2003. When Henry William Chesbrough was published his book "Open Innovation: The New Imperative for Creating and Profiting from Technology"(2003)".

Open Innovation- a term for a business paradigm that provides, in contrast to previously dominant approaches, a more flexible policy in relation to R&D and intellectual property. First,

the author developed the idea of open innovation for private business, but the concept soon developed in relation to various fields and activities.

Compared to "closed innovation", which implies a focus on internal sources of innovation - staff, subsidiaries and affiliates, open innovation draws ideas from everywhere, primarily from customers, to whom all activities are focused. [Chesbrough, 2003]

It is believed that such an approach carries the risks of adopting an innovative idea by competing organizations, since an organization, developing an innovative idea, does not hide it, as it was before. At the same time, this approach makes companies very flexible in responding to all the challenges of the external environment and even faster to introduce innovative ideas.

Open innovation offers several benefits to companies operating in the global partnership program:

- Reduced research and development costs;
- Potential for improved development efficiency;
- Connecting customers throughout the entire development process;
- Improving the accuracy of marketing and other research and customer focus;
- Potential for synergies, implying a relationship between internal and external innovation.

In our opinion, this is exactly the approach that is used in the development of innovative solutions, taking into account the experience and goals of the MHELM project.

So, on the one hand, Moldovan universities, within the framework of the consortium, exchange innovative ideas and develop educational products that have not been introduced yet, secondly, they accumulate a large amount of information and experience presented by foreign partners, thirdly, they exchange best practices in the framework of general activities.

As for one of the main aspects of the concept of open innovation - cooperation with stakeholders, this concept is developed in all modules of the program.

Customer orientation: firstly, the customers are students, masters, doctoral students and students enrolled in lifelong learning programs. Needs research is carried out using questionnaires (on-line and off-line), discussions, various tools for collecting proposals, participation in scientific and practical circles, conferences. The universities assess the level of customer satisfaction, bottlenecks in programs, wishes and suggestions.

Potential employers are the next interested party; orientation to their needs is also a priority task for universities. They participate in the development of curricula, assess students during the period of production and licensing practice. Also, representatives of employers are invited to open lectures, seminars, round tables, where the issues related to the formation of relevant competencies for university graduates are covered in more detail.

The next stakeholders are various government bodies, which are also interested in the formation of a quality labor market, increasing employment levels and sustainable economic development. From this position, in the formation of curricula, universities assess trends in the prevailing trends in the labor market, and also comply with the regulatory documents, which spell out the main educational guidelines. In addition, the management of universities constantly participates in events held by the Ministry of Education Culture and Research of the Republic of Moldova and other ministries and departments in order to exchange views on the prospects for the development of educational processes.

Thus, we can say that such close cooperation in planning changes not only in curricula, but also changes in all processes in higher educational institutions, puts such interaction in the rank of "open innovation" in the field of education.

In addition, the external stakeholders are the teachers themselves, who also make innovative proposals, engage in research, thereby increasing the level of both educational programs and the ranking of universities and changing the outdated paradigm.

Taking into account the interests of all parties and "fitting" them into the concept of open innovation, it can be seen that the additional usefulness of such knowledge is obtained through the synergistic effect of multidimensionality and multilateralism.

3. Balanced assessment of all activities

In addition to the constantly growing role of innovative approaches in teaching, it is necessary to note the multidimensional and interconnected nature of all processes in universities. In addition to realizing the interests of all interested parties, there are other areas of activity that cannot be ignored. To balance the consideration of all aspects in strategic planning, we turned to the Concept of the Balanced Scorecard, the authors of which are Norton and Kaplan.

Balanced Scorecard is a relatively new technology. It is developed based on the results of a study conducted in 1990.The main problem of the BSC: how to move from strategic objectives to specific tactical tasks and how to transform these tasks into numerical indicators. BSC transforms the company's general mission and strategy into a system of clearly defined objectives and objectives, as well as indicators that determine the degree of realization of these facilities in four main projections (perspectives, aspects): finance, marketing (customers), processes internal business, training and growth (development). The most important point is the causal relationship between these areas.[3]

For example, if a company wants to increase its profits, then it can either increase revenue (due to better quality - this is a direction of the customer) or reduce costs (for example, by increasing productivity - this is a direction of internal processes or development). After that, indicators are defined that describe each direction. Their current values are fixed, those planned are set, and those responsible for each indicator are named.

In such a system, a change in the value of one indicator will lead to a change in another or others in the cause-effect system.[3]

For the first time, the balanced scoreboard has been applied to industrial enterprises, where the main direction is financing, and the other 3 are subordinated to this direction.

In the last 10 years, the balanced dashboard has been applied to universities (USA, Europe, Asia, Russia). At the same time, customers are considered to be the main target. A fairly large number of practical applications of BSC for the university as a whole are known. For example, for the University of California at San Diego, Clemson University in Carolina, University of California Berkeley, University of Ohio (USA), Tammasat University in Thailand, University of Ottawa (Canada), University of Osaka (Japan), Universities in Edinburgh and Glasgow in Scotland. .[4,5]

Analyzing the concept of BSC for higher education institutions, we reach the following *conclusions*:

1. The higher education institution shall develop its strategy taking into account its mission, vision and competitive advantages
2. almost all higher education institutions use 4 components for BSC
3. for almost all universities, the client component is essential and the rest are subordinate to it
4. The strategic objectives included in the BSC are those key moments on which the outcome of the university's work depends
5. When developing a BSC, the key point is to determine the indicators for each component

Bringing BSCs from a public and non-profit sector perspective, Kaplan (1999) states that "the beginning of any performance management exercise must be to reaffirm or focus the organization's strategy: defining what is uniquely qualified to do and rejecting which will not fulfill the mission and purpose of the organization". In addition, a well-articulated and focused strategy will help the evaluation with the BSC.

The first thing public organizations should do is to start by identifying a general goal for their mission at the top of the dashboard. Kaplan (1999) notes that the financial and customer perspective of BSCs can be combined to provide a framework in which a government organization has three high-level themes: costs incurred, value created and legitimizing support.

Once the top tier dashboard has been created, the next step for public and non-profit organizations, similar to private sector organizations, is to implement the process to its individual departments. The departmental dashboards must reflect on the themes and objectives set out in the

top-level dashboard. Local dashboards describe how each department does its job to contribute to higher-level organizational goals.

4. Building a balanced scorecard for the university

As part of the activities related to the development of strategic alternatives in the MHELM project, we have developed a conceptual framework for the implementation of the Balanced Scorecard in the practice of our university - the Academy of Economic Studies of Moldova.

The whole process was broken down into three stages, which will be described below.

The process began by clarifying the mission and strategic objectives of the institution.

ASEM- mission to create new knowledge and train high quality specialists in the most diverse fields of economics, as well as in adjacent fields, able to participate as entrepreneurs and active and productive workforce in a competitive market and as responsible citizens in a constantly changing democratic society.[6]

After that, the strategic goals of the university were clarified.

Phase 1 - Strategy mapping: is the key result of the BSC, which shows the relationships between the results of the process and capabilities. The phase is centered on a series of interactive workshops attended by a wide range of stakeholders working together to discuss the desired results - strategic, financial, user-centered, etc. and the processes and capabilities needed to achieve them.

Phase 2 - Improving Services: The strategic map is used as a quick way to assess the effectiveness of different processes in meeting the desired results. This phase should be made more real through the use of available evidence or data, complemented, where appropriate, by tools such as process maps, systems thinking and simple management.

Phase 3 - Measurement and Evaluation: Here the possible performance measures for each element of the strategic map should be considered, which should be selected on the basis that they provide value, are cost-effective and minimize any adverse effects. According to Moullin "Performance measures do not have to be strictly quantitative ... In many cases - especially in some areas of capacity - more qualitative approaches are preferable".[5]

Identifying the strategic direction - key factor of BSC (Customers)

For our example, we have chosen the next strategic goal: "*Modernization and improvement of the quality of the education process and methodical-didactic assurance*".

After that, the following was refined and developed:

- specific goals,
- priority actions,
- indicators of the Balanced Scorecard,
- the intersection with other areas of the Balanced Scorecard.

All these areas are presented in the following table (Table 1).

Table 1: An example of the development of a Balanced Scorecard for a strategic goal: "Modernization and improvement of the quality of the education process and methodical-didactic assurance" (developed by the author based on the research results)

Specific objectives	**Priority actions**	**Balansed Scorecard Indicators**			**Intersection with BSC domain**
		Indicator	**Parameters to be reached**	**Period**	
Ensuring a training process connected to the latest developments in the field of	- correlation of the university curriculum with CNC, involvement in the business environment process, employers, ASEM Graduates Association, Student Senate	Increasing the number of people involved	At least 5 to 1 study program	1 year	The perspectives of innovation and learning

education at national and global level	-reviewing the course contents of all study cycles	Revised curricula	New curricula in 100% of disciplines	Until 31.08.21	The perspective of innovation and learning + internal processes
	Promoting joint study programs, organized in partnership with foreign universities	Collaboration agreements	At least 2 new agreements per year	Until 31.12. 21	Innovation and learning perspective + financial perspective
	Supporting and growing business consulting centers, considering them as a point of connection with economic relations, but also as a source of income	Increasing the number of contracts in consulting centers	At least 2 a year	Until 31.12. 21	Internal processes + financial perspective

Of great importance in this analysis is the establishment of interrelationships between areas and the establishment of interdependencies, which will necessarily be in case of a change in any objective from any area. Thus, the objectives in question should overlap with one or more areas.

Areas presented in the Balanced Scorecard for Higher Education Institutions are presented in Table 2.

What is important is that an evaluation strategy should be developed in an early stage project group, a working group, etc., as it helps to form strategies and processes for achieving the desired objectives.

The development team should include specialists from various departments, which is a logical requirement, based on the intersection of various areas-perspectives: financial, scientific, didactic.

Table 2. The main areas of activity in the Balanced Scorecard for Universities (developed based on research results [5,6])

Perspectives of BS	**Constituents of perspectives**
Customer perspective:	employers, faculties, graduates, parents; public image; faculty reputation, quality of services; continuous improvement.
The perspective of the internal activity	didactic excellence, the quality of the faculty; excellence and curricular innovation; effectiveness and efficiency of services; strategic issues
Innovation and learning perspective:	teaching and learning excellence and innovation; faculty development, technology leadership; teaching / learning innovation; program and curriculum innovations and improvements; improving teaching, distance learning; value-added learning, lifelong learning; the quality of the facilities, the reward system, and the mission-driven process
Financial perspective:	fundraising, revenues from operations; human capital investments, financial management; and foreign relations, public image

The following table (Table 3) also provides an example of the development of a Balanced Scorecard for the same strategic goal as indicated above, but with a different specific objective – "Modernization of the university curriculum from the perspective of modern teaching technologies". Thus, we describe the achievement of the same strategic goal – on the perspective of BS clients.

Table 3: The example of the development of a Balanced Scorecard for a strategic goal "Modernization and improvement of the quality of the education process and methodical-didactic assurance" towards another specific objective (developed by the author based on the research results)

Specific objectives	**Priority actions**	**Balansed Scorecard Indicators**			**Intersection with BSC domain**
		Indicator	**Parameters to be reached**	**Period**	
Modernizatio n of the university curriculum from the perspective of modern teaching technologies	Wider application in the study process of the opportunities offered by information technologies	Increasing the number of courses, which are placed on information platforms	100% courses are placed on Moodle	31.08.21	The perspective of innovation and learning + Perspective of internal activity + Financial perspective (attracting sources)
	Promoting a creative education, based on teamwork and orienting the content of studies towards the use of various interactive methods in the training process	Inclusion in the university curriculum. of student-centered teaching methods	100% revision of curricula with indication of teaching methods	31.08.21	The perspective of innovation and learning + The perspective of internal activity

After the development of a map of all processes, the stage of implementation and monitoring of processes follows. Make sure that the operations are carried out and oriented to achieve the desired objectives in an agreed time and budget (a note on the achievement of the objective will appear in the table). The achievement of the results is monitored and ensured periodically depending on the objective.

Conclusion: As a conclusion to the presented analysis, it can be noted that modern concepts of innovation management are applicable to higher education institutions. Universities as well as other institutions must develop in step with the times. To ensure a comprehensive transition to a new way of doing things, universities must constantly review the requirements of all stakeholders.

Also, to help the universities of the Republic of Moldova, with the support of the European Union, the MHELM project was created, which should help the managers of these institutions introduce new approaches to leadership, change and promotion of talents.

At the trainings organized by the consortium, representatives of the management of universities have the opportunity to gain new knowledge and apply it in the practice of their institutions.

One of these practical developments was the concept of Balanced Indicators as applied to higher education institutions.

This article reveals a step-by-step process of forming this methodology for ASEM, which will help coordinate both the strategic sectors of the institution and take into account the balance between them in the process of organizational change and innovation.

BIBLIOGRAPHY:

1. Official site of MHELM project: https://mhelm.utm.md/#toggle-id-2
2. Henry William Chesbrough. *Open Innovation: The New Imperative for Creating and Profiting from Technology*. HBS Press. 2003. ISBN 978-1422102831
3. Robert S. Kaplan, David P. Norton The Balanced Scorecard: Translating Strategy into Action, Hardcover – September 1, 1996
4. Valentina Parakhina, Olga Godina, Olga Boris, Lev Ushvitsky. "Strategic management in universities is a factor of their global competitiveness". On-line: https://www.researchgate.net/publication/312155468_Strategic_management_in_universities_as_a_factor_of_their_global_competitiveness
5. Cindy Brown. "Application of the Balanced Scorecard in Higher Education Opportunities and Challenges". On-line: https://www.centenaryuniversity.edu/wp-content/uploads/2017/01/Brown-2012.pdf

6. Planul strategic de dezvoltare al Academiei de Studii Economice a Moldovei pentru perioada 2018-2022, on-line: https://old.ase.md/files/documente/regulamente/interne/1.2_plan_strategic_2022.pdf