"Added Economic Value" Calculation for the Higher Education Providers' Services

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Abstract. In modern times, higher education and science have become national and international priorities and it is a significant factor in our social development. Growing competition in the market for education services is one of the key indicators which characterizes the current state of the industry. This situation leads to the necessity to find new ways to increase the economic efficiency of higher education providers who are constantly facing intensifying competition with each other.

One of the most important control mechanisms of the economic efficiency of a higher education provider is added economic value. This parameter determines the position and behavior of the business entity in the market for education services and shapes the strategic management of the education provider.

This paper presents the main strategies which are needed to increase the economic efficiency of education providers with emphasis on the development of international relationships. Despite the current social and political environment which has some influence on international cooperation in the higher education sector, education services has become an important part of the preserving and development of international cooperation between different countries.

This article is aimed at enhancing the development of management tools for the economic efficiency of higher education providers as a business entity in the conditions of the global financial market and academic mobility.

The main constraints to being able to fully manage the complexity of the economic efficiency of the higher education providers is the absence of a general methodology for the development of the economic efficiency of the management system, a lack of funding for research into the management of education providers and an underestimation of the practical benefits of the implementation of the use of management tools to increase their economic efficiency. For example, there is not enough research into the industry's best international experience.

The authors have investigated the added economic value as a tool for the control of the economic efficiency of higher education providers in Russia and Australia.

1. Introduction

The basis of the postindustrial society – the knowledge society – is information. Information is a new, fifth factor of production, not taken into account by traditional economic theory, which recognizes capital, labor, land and entrepreneurial ability as such factors. Information as an object of the economy is a product formed as a result of production processes. And the obtaining knowledge is one of the most important production processes in the economy of the knowledge society.

Basic knowledge is given by the secondary school. The provider of practical knowledge, those that later turn into both goods and services, and into new knowledge, are higher education institutions. Despite the fact that the activities of universities are provided by the state (both in our country and in many foreign countries), it have been and remain participants in the market of educational services.

Economic activity of educational institutions, including institutions of higher education, is created on market principles, which are the basis for the entire modern economy. The economic activity effectiveness of higher educational institutions in the post-Soviet space is complicated by a number of factors: first of all, the mission of a higher educational institution as a state institution does not provide for economic activity primarily for an educational institution; the main mission of the university is to educate rather than make a profit. In addition, the attraction of extra-budgetary funds (the implementation of paid educational services) is severely limited by state requirements both to educational programs as student achievement - this is a targeted state policy that excludes trade in diplomas. Another reason that often complicates the economic activity of universities is that the management of educational institutions does not pay due attention to managing the economic efficiency of the university.

At present, a set of economic performance management tools has not been created, in particular, for educational services providers. It's predetermines the actuality of this study.

During the introductory research on the identification of tools for managing the economic efficiency of the organization, it was revealed that the aggregative index of economic efficiency is added value.

In Russia, the concept of economic efficiency was investigated by S.A. Bartenev, A.S. Bulatov, E.I. Krylov, V.V. Novozhilov, T.S. Khachaturov, L.E. Kunelsky, N.A. Petukhova, B.A. Raizberg and other scientists.

Unlikely Russian public and private higher education institutions, majority of their counterparts worldwide have been independent business units. They strongly rely on their own economic efficiency in terms of entrepreneurship and have lasting history of economic value added analysis. At the same time Lillis, Charles M.; Shaffer, Paul L, 1977 have assessed particular application of economic efficiency evaluation for public universities, which is on their opinion has its own distinctive approach [1].

Bootsma, Margien C.; Vermeulen, Walter J.V.; Dijk, Jerry; Schot, Paul P. , 2014 pointed at economic value added by universities to other stakeholders of the higher education such as community and their students. This EVA can be accounted as well as the economic efficiency of the higher education institution itself [2].

Sarkar, Anirban; Perényi, Áron, 2017 underlined the role of education agents who recruit international (but not only) students to Australian universities and other higher education providers. According to his findings, the institute of education agents plays very important role to increase the EVA of Australian higher education providers and who possess four distinctive values such as «Market Knowledge, Network Facilitation, Financial Interest and Reliance and Trust factor» [3].

Chang R.I., Petrov A., Magin J.R., Limarev P.V., Belkovsky A.N., 2016 emphasised the EVA can be transferred by the education agents and added to EVA of the exclusive higher education providers these education agents represent [4]. The factor exclusiveness and devotion of the selected education agents provides and opportunities for the higher education institution to "outsource" some of their activities, which can be offered to the institutions by their exclusive agents free of charge increasing EVA of the institutions and making them more competitive on the market of education services.

Calculation of economic efficiency or Economic Value Added (EVA) requires many factors to be taken into consideration. Vidalakis, Christos; Sun, Ming; Papa, Aspasia, 2013 describe the importance of facility management by higher education institutions for better economic performance. It not just increase the efficiency of universities and other higher education providers, but allow them to redistribute their funds and resources toward other students' and academic activities [5].

Muktiyanto, Ali, 2017 strongly advised higher education providers both university and non-university sector to widely implement highly developed management accounting techniques and tool

such as target costing, activity-based costing, balanced scoreboard, measurement based performance and EVA to calculate and evaluate the institutions' economic performance and efficiency [6].

McChlery, Stuart; McKendrick, Jim; Rolfe, Tom, 2007 used Activity Based Management to cost education institutions' performance [7]. They went deeper with their dichotomy of the higher education providers' efficiency evaluation by institutions' faculties, departments, various programs and supporting units. This approach allows the education providers to calculate and evaluate their performance comparatively to the best practice institutions in the industry and at the same time to explore and compare different parts inside the institutions, which is more comprehensive and elaborate approach.

Distant or online education become more and more popular both in Russian and abroad. Computerized world, globalization, academic mobility, e-savvy clients and intense competition of the market of higher education services demand higher education provider to go online.

For many higher education institutions, it is another way to increase their economic value. Online courses become more and more competitive in comparison with on-campus education. Navarro, Peter, 2017 explores general enquires and aspects the higher education providers are likely to face such as the development of distant or other words online education worldwide [8]. Some of the aspects presented such as costs of development of online content, time, and labor resources it requires. The online course must be distinctive and not just a copy of numerous similar courses offered by other higher education providers. Arguably, the online higher education might substitute the traditional academia, and subsequently the higher education sector needs comprehensive approach to calculation of economic efficiency not just different institutions but also particular courses, faculties and types of delivery of the curriculum.

The added value is the type of income that is accounted for in the system of national accounts. An estimate of the effectiveness of the economic activity of an educational institution from the point of view of the interests of the state economy can be the indicator of added value [9]. The added value produced by Russian educational institutions in the SNA can be determined on the basis of statistical data. The calculation procedure was described by M. Abryutina in the work «Express analysis of financial statements» [10]. Comparison of indicators for the industry as a whole and for a specific educational institution can show how the effectiveness of the economic activity of the university differs from the efficiency of the entire economy of the industry. At the same time, the instruments that control the economic efficiency will be the factors that affect the receipt of added value [11].

The added value of any product, including information (educational) can be determined as the difference between the total revenue from the sale of these products and the intermediate costs for its production:

$$VA = TR - C_I \qquad (1),$$

as VA – added value;

TR – total revenue in terms of selling educational services for budgetary educational institutions and in general for private educational institutions;

C_I – intermediate costs.

The intermediate costs in the general case include the material costs of production and part of the fixed costs associated with the production of the product. Intermediate costs for educational services include the costs of the educational process (teachers' salaries, training materials, advance training costs and other interim costs). Data on income and on interim costs are available from accounting documents.

The added value in its structure is ambiguous, moreover, different value-added systems are used to determine the various performance parameters from the end of the 20th century [12; 13; 14].

These systems include the Cash Value Added (CVA), which shows the ability of an enterprise to cover operating costs and the cost of capital, the Shareholder Value Added (SVA) used to obtain information about the degree of efficiency of the investments made, the market added Value (MVA), used to assess the efficiency of capital use, and Economic Value Added (EVA), which is used to

assess the effectiveness of activities from the position of its owners [15; 16; 17]. EVA defined as follows (2):

$$EVA = (P – T) – IC \times WACC = NP – IC \times WACC = (NP/IC – WACC) \times IC \quad (2),$$

as P – profit from ordinary activities;

T – taxes and other mandatory payments;

IC – capital invested in the company

$WACC$ – weighted average cost of capital;

NP – net profit.

Weighted average cost of capital is calculated as follows (3):

$$WACC = A_{BC} \times S_{BC} + A_{EC} \times S_{EC} \quad (3),$$

as A_{BC} – amount of borrowed capital;

S_{BC} – share of borrowed capital in the structure of the enterprise;

A_{EC} – amount of equity capital;

S_{EC} – share of equity in the structure of the enterprise.

Data for determining EVA are contained in the organization's financial statements. The table shows the management options for the EVA for an educational institution.

Table 1. Management of economic added value.

Impact target	Impact result
Increase in profits using the same volume of capital	1. Development of new market' segments of educational services; 2. Expansion of the audience of consumers; 3. Pricing policy optimization; 4. Optimization of taxes and other mandatory deductions under the state laws
Reducing the capital volume while maintaining profit	1. Reduction of costs for the production of educational services; 2. Replacing the cost elements of the educational process t less expensive; 3. Optimization of distribution of the salary fund

Economic added value shows the dynamics of changes in the educational institution assets as a result of its activities. This indicator assumes the responsibility of the relevant services of the educational institution for its formation and bases the dependence of the motivation of the managers of the direction of paid educational services (or the managers of the non-state educational institution) from its change.

The EVA indicator reflects the educational institution's participation in the formation of the country's GDP, not taking into account the accounting system, therefore, in evaluating the economic efficiency of the educational institution, other indicators should be taken into account – an integrated indicator that takes into account the ratio of income, expenditure and payables, return on invested capital and availability of economic profit.

The integrated indicator [18] is a static indicator of financial performance of managers of the direction of paid services of an educational institution and is defined as follows (4):

$$C_I = \frac{R_R}{C_R} \times \left(1 - \frac{AP_E}{AP_B}\right) \quad (4),$$

as C_I – integrated coefficient of accounting for income and expenses;

R_R – revenue in the reporting period (month);

C_R – costs in the reporting period;

AP_E – accounts payable at the end of the period;

AP_B – accounts payable at the beginning of the period.

The return from invested capital is an indicator of the business activity of managers in the direction of paid services of an educational institution, and economic profit is a criterion for the effectiveness of the use of the reserves of an educational institution.

2. Conclusion

The economic efficiency of the direction of paid services is determined by comparing the available indicators with the reference ones, information about which can be obtained from the budget of the organization. Planned indicators of the budget are the basis for the formation of benchmarks, performed – to form real indicators.

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