

Ágnes Siklósi, Krisztina Sisa

Budapest Business School, Budapest, Hungary
e-mails: {siklosi.agnes; sisa.krisztina}@uni-bge.hu

Boglárka Szijártó

Budapest Business School, Budapest, Hungary
Szent István University, Gödöllő, Hungary
e-mail: szijarto.boglarka@uni-bge.hu

COST ACCOUNTING IN HUNGARIAN PUBLIC HIGHER EDUCATION INSTITUTIONS

RACHUNEK KOSZTÓW W WĘGIERSKICH PUBLICZNYCH INSTYTUCJACH SZKOLNICTWA WYŻSZEGO

DOI: 10.15611/pn.2018.515.22
JEL Classification: M41

Summary: This paper aims to present the area of cost accounting in the general government sector, more precisely, in higher education, its relationship with managerial accounting. A special emphasis is the question of the application (applicability) and necessity of cost accounting in this sector. The performance, competitiveness, and last but not least, the rate of overall social satisfaction are highly dependent on the capacity, and the quality, effectiveness and efficiency of the operation of financial actors and different public institutions. The efficiency and effectiveness of public services can only be measured and determined in the knowledge of net costs. Our aim is to explore the issue of cost accounting in higher education and to identify the related problems.

Keywords: higher education, cost accounting, managerial accounting.

Streszczenie: Artykuł ma na celu przedstawienie kwestii dotyczących rachunku kosztów w sektorze publicznym, a dokładniej w szkolnictwie wyższym, oraz jego związku z rachunkowością zarządczą i regulacjami instytucjonalnymi. Szczególny nacisk położono na ostatnie istotne zmiany oraz na kwestię stosowalności i konieczności rozliczania kosztów w tym sektorze. Wydajność, konkurencyjność i wreszcie ogólna satysfakcja społeczna są w dużym stopniu uzależnione od zdolności, jakości, skuteczności i wydajności działania podmiotów finansowych i różnych instytucji publicznych. Wydajność i efektywność usług publicznych można mierzyć i określać jedynie przy znajomości kosztów netto. Naszym celem jest zbadanie problematyki rachunku kosztów w szkolnictwie wyższym oraz identyfikacja powiązanych problemów kwestii.

Słowa kluczowe: edukacja wyższa, rachunek kosztów, rachunkowość zarządcza.

1. Introduction

Higher education institutions, besides carrying out educational and research activities, play a vital role in a nation's economic and social development, in providing intellectual capital. Furthermore, the research and development performance of higher educational institutions is indispensable to boost economy; it contributes to the development of entrepreneurship, and thus to increasing GDP.

The Hungarian higher educational system has undergone several transformations and restructuring since the economic and social transition of the 1990s. Similarly to East-Central-European trends, it entered the mass education phase after the transition. The effects of higher education expansion can be best observed in the increased number of students, and the increase in the size of rural university centers [Gál 2014]. The higher education reform, the restructuring of the higher education financing system and the institutional background have been carried out. There is a clear commitment towards a more and more internationalizing higher education system in Hungary, which is performance- and quality-oriented, supports value creation and is capable of responding to the globalization and social challenges of the world, as well as taking into account the generational characteristics and attitudes in higher education.

Today in Hungary, the keywords of 21st century higher education strategy are quality, performance and sustainability, whose realization is a complex and long-term process, but according to forecast this strategic goal can be met by 2030 [Siklósi, Sisa 2017].

The year 2016 was basically determined by objectives and interventions related to institution management and control. The maintainer focused on those strategies that concern the provision of direct manageability of institutional activities [Berács et al. 2017].

2. The role of managerial accounting in the higher education sector

In Hungary, the sources of funding required for the operation of state universities are dominantly financed from the central budget. At the expense of the available source of financing – by regenerating the intellectuals of a nation – institutions, in fact, fulfil a common social need. Therefore, just like for any other actors financed from the budget, transparency, accountability, balanced management and finances, as well as reliability are basic requirements from the sector's economic, more precisely, its accounting information system, which all call for the existence of an accurate and complete accounting system. The tasks of state budget accounting are somewhat different from those in the business sector. In the public sector, accounting is responsible for the bookkeeping of economic operations related to public spending,

the record-keeping and assessment of public goods, and also for designing and presenting a report system that meets the needs of different value holders [Györffi, Vígvári (eds.) 2009].

Complying with these requirements accounting differentiates between entrepreneurial and public accounting, and besides the Act C of 2000 on accounting, a separate regulation was created to regulate accounting processes in public finance¹. On this basis, in addition to the general requirements of the act on accounting, it is necessary to establish special rules on accounting with regard to the specificities of operation finance and exercising of tasks.

The for profit sector – recognizing the managerial decision-making support role of accounting – has several decades of experience in operating the managerial accounting subsystem, although in many cases managerial accounting is treated as a sub-function within the frameworks of controlling.

At the same time, in the non-profit sector organizations financed from the budget included – examples of managerial accounting methods are scarce.

Managerial accounting is regarded as one of the main branches of accounting, which complements the “traditional” financial accounting branch, and they have the collective ability to provide adequate information. Adequate information is real-time, relevant and accurate.

The suggested structure of university accounting information systems is shown in Figure 1.

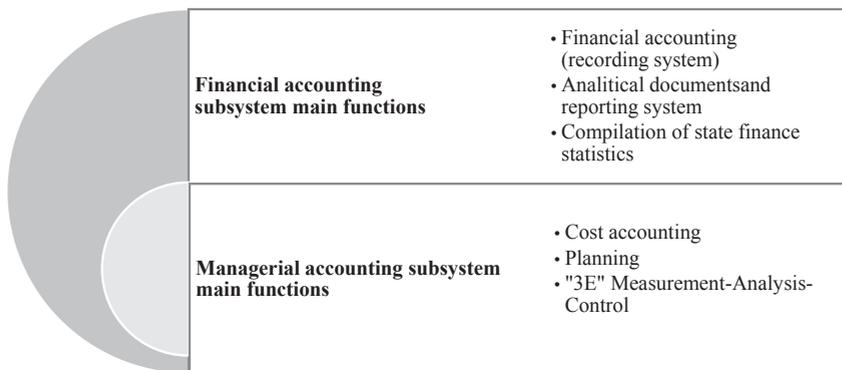


Figure 1. Functions of financial and managerial accounting subsystems in the higher education sector

Source: authors' own compilation.

As a part of financial accounting, the accounts, recording, and compulsory reporting system has to be established, which carries out quasi double monitoring and registering

¹ The first independent public accounting act in Hungary was passed and introduced in 1897.

of economic operations, since both cash-basis and accrual-basis accounting methods are present in the financial accounting subsystem in Hungary.

However, competitiveness and management operating a professional decision-making mechanism require the existence of the managerial accounting subsystem as well, which should be developed as a part of controlling, to be able to support controlling tasks. In our opinion – complying with current legal regulations – the higher education cost accounting system is an independent managerial accounting function, which should be supported by tailored and methodically well-founded cost accounting regulations which precisely describe the calculation system and process.

Planning, as another highlighted managerial accounting task, is a complex planning function, which comprises the development of both strategic and operational plans (such as, outcome plan, liquidity plan, staff scheduling plan, project plans, etc.). Naturally, factual data for planning can be provided by the financial accounting subsystem.

“3E” means effectiveness, efficiency and economy criteria for public actors, whose measurement, assessment and managerial feedback is the third main function of managerial accounting.

Of the managerial accounting functions, cost accounting in the higher education sector will be further detailed.

3. Brief description of changes in the accounting legislation environment

As of 1 January 2014, the accounting information system of the actors in public finances became more complex, as the realization principle or accrual-basis approach appeared in recording economic events (Government Decree 4/2013 on the Accounting of Public Finances entered into force).

Owing to accrual-basis accounting, the accountability and transparency of financial reports in the public sector can be improved, as well, and better quality data is available for management and the preparation of policy decisions. Since there is no time lag before recognizing revenues, the general ledger has prior information about activity costs, resources used, and a new opportunity for comparing performance in certain periods is created. This is ensured by the matching principle aided by the application of the accruals principle [Pavlik 2015]. With the application of the realization principle known from the profit sector, costs (expenses) and revenues, and thus performance, can be monitored, measured and thereby recorded. In fact, the concept of cost accounting becomes interpretable and precisely calculable within this accounting information system.

As a matter of course, alongside accrual-basis accounting, the modified cash accounting based, so called budgetary accounting still exists, since the aggregated

central budget of public finances is created according to the cash-based approach, therefore it requires the knowledge of costs and revenues.

4. Cost accounting in state-financed higher education institutions

Legislators pay special attention to the cost accounting of the actors in the higher education sector. It is shown by the fact that, based on the Government Decree 4/2013 on the Accounting of Public Finances 50 § (3), internal regulations concerning the modalities of cost accounting in state higher education institutions shall provide for separating the costs of educational activities, research activities, curative and preventive care and other activities. To be able to determine the net costs of educational activity, per capita costs for students have to be calculated every six months, for programs, level of training and based on working arrangements.

Based on the Government Decree 4/2013 on the Accounting of Public Finances provisions, accounting policy shall lay down the general cost, as well as the general expenditure and revenue allocation methods for activities, the indicators used for allocation and cost drivers.

It is known in budgetary practice that different cost components exist independently of the ones determined in Act C of 2000 on Accounting 51.§. This claim is explained by the fact that the amount of the cost is also influenced by the type, extent, rate and allocation method of indirect costs that are allocated to cost bearers, besides direct costs. The cost components should be adjusted to the information needs of certain decision-making processes, which also means that only costs relevant to the decision-making process appear in the cost calculation process. For example, pricing or economy calculation require the knowledge of the total cost of a product of service, while to be able to present own performance in a report, the precise calculation of direct cost has to be performed [Kardos et al. 2016; Weetman 2010].

When creating their internal regulations for cost calculation, institutions determine the scope of costs related to the sales of certain products and services. Emerging direct costs are listed in detail, and decision is made about the method of allocation of indirect costs (using traditional cost calculation methods and well-chosen cost drivers).

The cost calculation arrangements shall ensure that the **per capita cost for a student for six months** can be calculated for programs, level of training and based on working arrangements. Beyond these costs it can provide for the financing of direct and indirect costs (total costs) related to educational programs, moreover, for other, outside the scope of educational activities, and further items that can be deduced from the expenditure emerging during operation.

When determining costs, emerging direct costs and allocated costs that qualify as indirect in accounts shall be quantified.

Costs that are hard to allocate to certain activities emerge in the whole institutional management system. Determining an appropriate cost driver and its fair allocation among certain activities, fundamentally affects the use of efficiency indicators.

Traditional cost calculation systems usually assign general costs to products using a feature, cost driver that is in proportion with the produced amount. However, the question arises, apart from quantifying and ascertaining direct costs, when determining the cost of products, which cost driver would serve the best the allocation of general costs, with a view to basic accounting principles (cost-benefit principle) [Hornngren et al. 2012].

In addition to allocation of indirect costs, another intriguing question is choosing the appropriate cost-bearer. Within the scope of educational activities it is relatively easy to differentiate particular educational programs, but for re-research activities decision is harder to make. The question arises, which areas of research activity can be treated as independent cost bearers – which is also questionable from the financing point of view – and to what extent should research activity appear and be recovered in training costs [Pavlik 2015, 2017].

It is worth considering the type of tasks to be carried out and their cost structure from the methodology perspective. Aside from traditional cost calculation methods used in the production sector, relevant international research [e.g.: Arnaboldi-Lapsley 2003; Baird 2007; Terzioglu-Chan 2013] suggests the application of different activity-based methods (Activity-Based Costing – ABC – and Time-Driven Activity-Based Costing – TDABC).

5. Trends in performance-based higher education development and its relation to cost accounting

It is a governmental strategic objective that in order to narrow educational opportunities in the currently fragmented system, specific educational branch – educational areas – should be strengthened in institutions. The direct aim is through reducing competition among institutions, competition among educational areas increases and thus indirectly the standard of education will increase in the particular educational area. The objective is that institutions offering special educational areas shall compete with each other. This is how institutions offering certain educational programs can grow and enter competition in the international market, and eventually the specific educational branch can develop, as well.

Another key to quality development is cooperation among institutions and strengthening sharing work load. Cooperation and sharing can only be achieved if there is a marked specialization in educational institutions, such as theoretical-academic universities, practice-oriented universities of applied science, and institutions specialized in dual training. Besides competition among educational branches, social challenges and constantly changing standards have to be emphasized. In performance-oriented institutions actors, namely teachers, students and leaders, are all motivated to develop performance. Its indispensable prerequisite is continual communication of social and institutional requirements – developing a consistent system of performance criteria and performance measurement indicators – to actors.

On the macro level the performance of higher education can be characterized by the rate of university graduates in the population, the rate of early leavers, the average duration of education and the returns of resources invested in education. The PISA test results published by the OECD [OECD 2014, 2015] show an interesting picture of the development of factors affecting performance.

Our study focuses on the role of cost accounting in higher education, which can support performance-oriented higher education. The link is created by the financing system. Higher education financing can happen using institutional – flat rate type – input (input-based, such as number of applicants) or output (output-based, for example, number of graduates) financing models. Higher education institutions are required to rely more and more on their own revenues and external market resources when they carry out their basic education-al and research activities, thus by stabilizing external resources they become less dependent on current budget resources. To achieve this objective in Hungary, an activity-based budgetary planning and management system was introduced in 2016, which places the costs and financing of providing public services “ordered” from institutions on a transparent footing, as well as their financing, and makes it possible to clearly differentiate them from business type of activities But what type of cost accounting system should be developed and operated in the higher education system, which is capable of sup-porting performance-oriented financing?

Based on the strategic goals of Hungarian higher education a regulatory and administrative environment has to be developed where institutional operations and management can be stabilized, dependency on state and public resources is reduced and the conditions are created for the introduction of new business models. To this end, the following need to be considered:

a) **A unified cost accounting method has to be developed that determines recognized costs** (precise identification of service entities and allocation principles included), in a way that it encourages the reduction of operational costs and increases the efficiency of the entire management.

b) **Instead of historically developed per capita supports a new system based on real education costs has to be developed.** The connection of financing to activities cannot be traced. Differentiated financing is required, which is supported by **true cost accounting**.

c) A new institutional and asset management regulatory environment should be developed, in which institutions are motivated to increase their own revenues and to develop an efficient management system.

6. Conclusions

The present study briefly outlined the current cost accounting regulations in force in the Hungarian higher education sector. Based on the current situation, it can be concluded that special cost accounting principles and methods regulating cost accounting in the sector, as well as basic principles for the allocation of indirect costs

are lacking. In their lack, cost accounting in Hungarian higher education institutions is performed using the well-established and formalized calculation system, methods, and calculation concepts and schemes of the business sector, which are not capable of serving the activity-based and performance-oriented budget planning supporting financing system.

In our opinion, the specific educational financing objective, accommodated to the higher education strategy, is the creation of a stable, reliable, true, recognized cost-, activity- and performance-based system that can adapt to labor market demands and current budgetary resources, which in the end can contribute to the development of a performance-oriented higher education sector.

References

- Arnaboldi M., Lapsley I., 2003, *Activity based costing, modernity and the transformation of local government: A field study*, Public Management Review, vol. 5, pp. 345–375.
- Baird K., 2007, *Adoption of activity management practices in public sector organizations*, Accounting and Finance, vol. 47, pp. 551–569.
- Berács J., Derényi A., Kádár-Csoboth P., Kovács G., Polónyi I., Temesi J., 2017, *A magyar felsőoktatás 2016. Stratégiai helyzetértékelés Budapest*, Corvinus Egyetem Nemzetközi Felsőoktatási Kutatások Központja.
- Gál Z., 2014, *A felsőoktatás területi szerkezetének változásai*, Educatio 2014/1., pp. 8–120.
- Györfői D., Vígvári A. (eds.), 2009, *A közpénzügyek nagy kézikönyve*, Complex Kiadó, Budapest.
- Horngren C.T., Datar S.M., Rajan M., 2012, *Cost Accounting: A Managerial Emphasis*, 14th ed., Pearson Prentice Hall, Upper Saddle River, NJ.
- Kardos B., Sisa K.A., Szekeres B., Veress A., 2016, *Vezetői számvitel elmélet, módszertan*, Saldó Kiadó, Budapest.
- OECD, 2014, *Education at a Glance*, <http://www.oecd.org/education/Education-at-a-Glance-2014.pdf>.
- OECD, 2015, *OECD Education at a Glance 2015*, <http://www.oecd.org/education/education-at-a-glance-2015.htm>.
- Pavlik L., 2015, *Önköltségszámítás az államháztartási számvitel új szabályozási keretei között*, Pénzügyi Szemle, no. 1, pp. 63–78.
- Pavlik L., 2017, *Verseny és controlling a közszféra egy fontos szegmensében, a felsőoktatásban*, Pénzügyi Szemle, no. 1, pp. 48–70.
- Siklósi Á., Sisa K.A., 2017, *Innováció és fenntarthatóság a hazai számviteli felsőoktatásban*, Controller Info, no. 5:(3), pp. 42–50.
- Terzioglu B., Chan E.S.K., 2013, *Toward understanding the complexities of service costing: A review of theory and practice*, Journal of Applied Management Accounting Research, vol. 11, no. 2, pp. 29–44.
- Weetman P., 2010, *Management Accounting*, 2nd ed., Financial Times Prentice Hall, Harlow.