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Emerging Markets Queries in Finance and Business

# Management Control System in the University of Debrecen

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## Abstract

The statement that limited resources together with the unlimited user demand force Universities, Colleges to follow the principle of strictly target-oriented financial rationalism is becoming more and more valid these days. A full scale reorganization of the financing system of higher education is in progress in Hungary and the University of Debrecen would like to maintain its status in this process. The management is required to monitor the changes of the environment continuously, and apply the necessary tools in order to reach its strategic goals. A gradually emerging need is that this educational unit have to frame operating structures that are suitable for flexibly following the changes occurring in its environment. This is the terrain where the management can be supported by the management control system, which is in fact means of regulating operations and driving preparations for decision-making. This study directs attention to the importance of the management control system, and the fact that by today this tool for the support of decision-making has become indispensable even for budgetary organizations.

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*Keywords:* management control system; University; management information system

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## 1. Introduction

In our rapidly developing world when the state is not able to maintain fully the concerning organizations it is necessary to introduce a new helping-supporting system, which is capable of reacting in time regarding the changes coming from the environment as well as changes within the organization and to provide a good action plan recommendation for decision makers. This “support” has already existed, most of the enterprises has

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already utilized it, but it comes forward only in nowadays in case of organizations providing services and maintained by the state, when maintaining their operations have to be carried out from own sources by slowly being left alone.

Our examination focuses on working out a possible would-be theoretical information management control system of the University of Debrecen, which makes the fact possible that the management should react on changes coming from the environment in time that is the management should be able to lead the maintainability of the operation into a right direction.

## 2. Materials and Methods

In order that this chapter of my would-be dissertation should be successful, the preparation of this sub-study was carried out altogether with the Economic Director-General of the University of Debrecen. On the basis of personal conversations, different questions arose in connection with the information system, the management control system and management information system of the institution. The present system is immature yet, the economic and political circumstances becoming more and more difficult have made the fully construction of the decision support system necessary.

## 3. Results

### 3.1. Location of Construction

When analyzing the word “controlling” many think of the verb “to control” immediately. However, this idea is not fully true. This management decision support system is not only a simple control; it is much more than that. The management control system is an organizational sub-system, which task is to ensure the effective operation and increase of the system (Boda-Szlávik, 2005).

Another description gives a more precise image about management control system and its actual tasks. The elements of the management control system include strategic planning, operative framework planning, resource distribution, performance measurement, evaluation, remuneration, the system of responsibility units and the system of standard cost pricing (Anthony, 2007).

It is outstandingly important for the management of the University of Debrecen operating from budgetary funds to look through their operation and daily activities clearly from the aspect of the future maintainable operation. For this purpose it is essential to develop major indicators in order to get regular information on the available incomes of their institutes, on their types as well as on the operational and maintaining costs. During the operation, the sum of the available budgetary subsidy to implement state tasks set in regulations and its precise utilization must be visible, which does not always equal with the available set amounts.

When analyzing the differences between the actual and planned facts in strategic management control system, the frequency of the data is scheduled by half a year, yearly or sometimes more years (Körmendi-Tóth, 2011). The basic purpose of comparing the planned and actual data is to reveal differences and control of realization. According to the traditional concept it is the examination of the realization of the planned tasks on the basis of the actual data as the two end points of the operational process (Körmendi-Tóth, 2011). The basic task of analyzing differences is to reveal reasons which caused the changes. This activity helps in improving the planning work and in reacting better on the changes coming from the environment (Subhash, 2011).

In order to carry out an appropriate examination, the answers of three questions should be looked for. These are the followings:

1. whether the plan data were established,
2. determining the absolute and relative difference between planned and actual data,
3. for what reason the differences occurred.

In case of the university operating in a decentralized way an appropriate management control system is necessary. Its location is illustrated in the next figures:

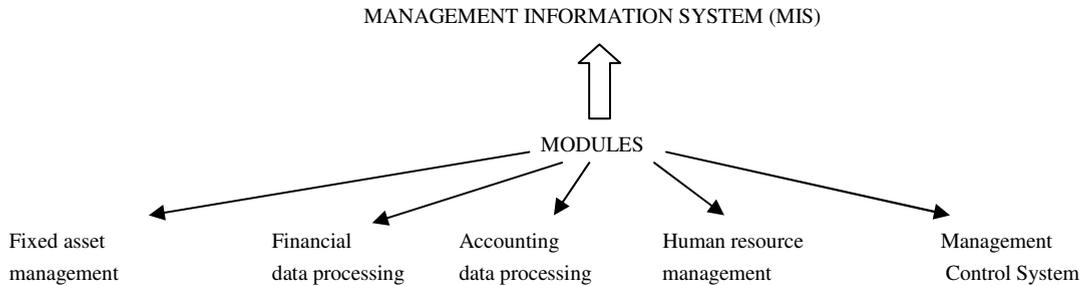


Fig. 1. MCS in the Modules I  
Source: own compilation

Figure 1 illustrates a possible module set, in which not every operating system was listed. From the aspect of the illustration, however, it reflects the essence in an appropriate way. The different modules locate next to each other thus serving data for the management information system (MIS); the decision support system appears as a separate line. This figure is not perfect in this way. The reason is that the management control system is usually determined as a separate module, though it is not right. With the help of the figure it turns out that management control system is co-equal with the other modules, but in this way it cannot fulfill its tasks with a maximum efficiency. The management control system should join all of the modules, it should be based on them in order to gain the necessary data and the controller should work not with “given” data. Its proper location is shown in Figure 2:

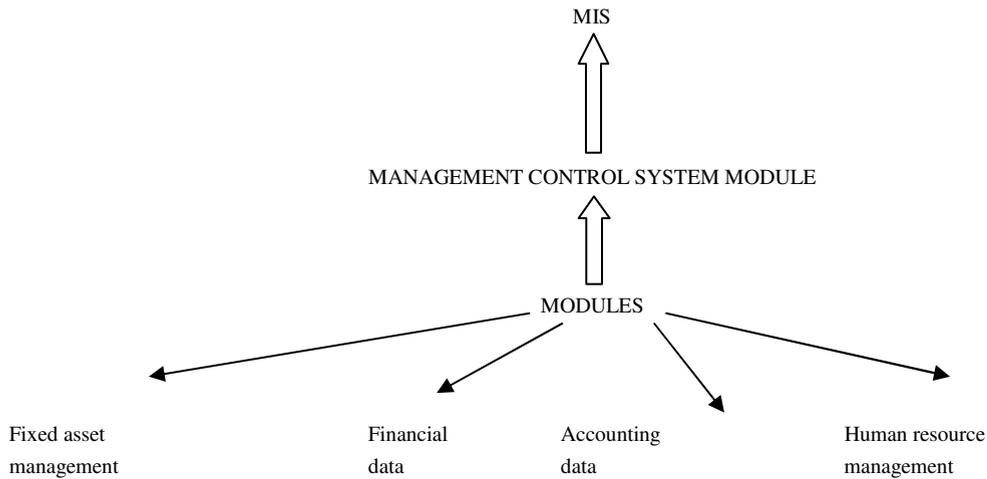


Fig. 2. MCS in the Modules II  
Source: own compilation

Figure 2 shows the real location of the management control system. It gathers the necessary pieces of information from the data market and transmits them towards the management information system by organizing them in a proper form. It means that every module should locate under the management control

system module. In this way it is able to gather the important actual data and by comparing the actual and plan data to determine the places of changes and to reveal its reason.

After determining the precise location of this management decision supporting module in the field of data processing, in the next part three main building elements will be detailed, which are necessary for establishing an effectively operating system.

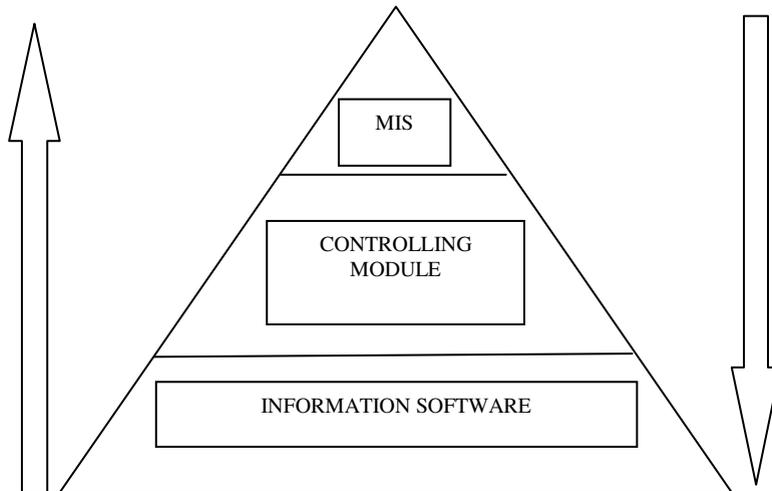


Fig. 3. Place of controlling module in the system

Source: own compilation

The management control system should play a central role in the life of the institution. Actually it should play a mediatory role between the dataset of information software modules and the management information system. In this way it has an outstanding significance to transmit proper data in appropriate time.

The arrow facing up symbolizes the fact that the dataset, which is just prepared by the available information software, the SAP system at the university, due to the work of the certain departments, has to be sent to the management control system unit, from where for the MIS.

The pyramid-like figure illustrates well that if any part was not proper, in case of its deficient existence serious problems would arise during the selection and implementation of the proper decision alternatives.

In order to base the management decisions on safe and proper basis the first step is to develop a proper basic module system, which is able to ensure the proper data in proper time for the management control system department. In case of a deficient development making bad decisions have a higher possibility. Then the management control system using the opportunities of the data market has to send the proper reports and recommendations to the MIS.

The effective management control system needs:

- plan data,
- actual data using the management account,
- analyzing differences,
- intervention in indirect and direct ways without realizing conditions.

In this way in case of a higher education institution, as it has to plan for the next budgetary year, the management control system is able to provide proper data for these plans. It may gain data from the data market located under the system. This is symbolized by the arrow facing down.

On the basis of the experiences of previous years, it is possible for the management of the university to carry

out a more precise planning.

### 3.2. Information Software

By choosing the proper administrative-technical software a higher education institution is able to work out an action plan almost immediately, and to implement it. Several companies provide solutions for this, such as SAP, SAS, Oracle etc. Nowadays in Hungary the SAP system is the market leader regarding its introduction number. These kinds of software have two major problems:

- At one hand they are expensive even in data building,
- On the other hand they are modular structured, which means that introducing a really effective system and purchasing more modules go with extremely high costs.

Thus this information system never looks like as it should, only certain supporting “columns” are established first, and the necessary levels are built on it, while the lowest level is supplemented and beautified. However, this may cause serious problems in the everyday operation of a higher education institution. The reason is the fact that the available source is not sufficient for the development of the whole information system.

The certain components are responsible for reducing the risks concerning every field of the organization, thus even for identifying the available and would-be problems (Heteyei, 2004).

Observing the software-like development of other educational institutions, the followings may be experienced:

1. introduction of one module occurs  $\implies$  high costs, unsatisfied individual demands
2. lack of optimal utilization  $\implies$  lack of knowing the software, software planning mistakes
3. the management does not know what it really wants  $\implies$  unpredictable economic environment

The information software impacts totally on the pyramid, as everything happens through the computer. If there was a mistake in the basics (bad recording, trouble in the software), it would have effects on the management decision making through the management control system.

### 3.3. Management Control System

Nowadays the phrase prevail better and better by which due to the shortage of resources and the unlimited consumer demands the budgetary bodies should be characterized by target-rationalism. Financing the higher education system in Hungary is under a whole transformation, thus the management has to pay attention to the changes of the environment, and in a harmony with this, to modify the set targets. The perception comes forward by which these education units have to develop an operational structure, by which they are able to follow the changes coming from the environment in a flexible way. The management control system helps the management in this, which is a tool for controlling the operation and preparing the decisions (Tarnóczy-Fenyves, 2011).

When unfolding the information systems into functional modules, finance and accounting, management control system, fixed asset management, human resource utilization etc. appear, as they were illustrated in the above mentioned.

The level of management control system appears as the most developed part, because most of the experiences are available here. The opportunities of this level have already appeared even in case of other software packages, for example in case of Microsoft Office. The programs, due to their development, are able to form the proper basis of the management information system.

In the organizational structure of the university the controller is next to the manager, and has to communicate to him or her directly, as through this connection it is possible for the manager to lead the operation into the appropriate direction. It is important, however, that the manager should be cold in order that

the controller should not become a manager. It is necessary to have a confidential relationship between the two parties in developing the proper connection.

The management control system due to its pre- and post-calculation activities makes the fact possible for high education institutions that they could continuously follow the tendencies of the costs, and when detecting differences, they could lead into a proper direction. The planning itself forms an important basis in order to reach their strategy. When this is compared to the actual data a whole reflection on the operation and efficiency is resulted. During analyzing the differences, the pieces of information on the correlation of plan and actual data have to be sorted first for the sake of preparing decisions and measures, and then they have to be brought to the management leading point in time in order to take the proper measures. The implementation of this is carried out by the controlling information system (Körmendi, 2011).

The functional element of the controlling methodology is the system of handling management control system information (Körmendi, 2011). This system has three major tasks:

1. data-gathering for analyzing differences,
2. data and information processing,
3. serving information for the management for the sake of preparing decisions.

However, the task of the controller is not only the process of the information, but the real computer work also belongs to partly the controller. The tasks of the controller all in all are planning, constant planning, and continuous evaluation of the gained data and finally to send these to the management.

One of the advantages of the management accounting, comparing it to “external” accounting solutions, is the fact that the cost management has to be worked out in a much more detailed way. Nowadays while sequential withdrawals happens in higher education, costs should be handled by a highlighted priority, as by reducing them the future operation may be made more effective. In Hungary the state budgetary accounting was formerly based on the cash-flow principle. In harmony with the Convergence Programme for the years 2013-2016, however, a new state budgetary accounting system entered into force, as the Government Decree No. 4/2013 (I.11.). The introduced new budgetary accounting of accrual basis is a huge progress as it is capable of serving up-to-date pieces of information. The new state budgetary accounting consists of two parts:

1. budgetary accounting
2. financial accounting (3§)

By the appearance of the financial accounting more precise recording of costs is made possible by keeping up-to-date accounting. The budgetary accounting helps by the continuous recording of income-expense estimates, receivables and liabilities and other financial liabilities in the effective management, and by the jointly management of the two accounting systems it may ensure the fact that the management could react on the changes from the environment in time on the basis of the gained information.

### *3.4. Management Information System (MIS)*

The basic condition of the success is the fact that the university should adapt on the changes caused by the market environment and the arising problems should be solved in up-to-date, creative and innovative ways. In order to realize all these, a proper institution management system is essential. The successfulness of the management primarily depends on the fact whether the necessary tools are available and the pieces of the information are reliable. If these criteria are available, quality decision may be made in time.

All in all, it is relevant to strengthen the decisions being made by the management of the higher educational institution with proper planning and management control system methods, calculations and different analyses. For all these appropriate and precise information is crucial. The information system is a part of the entity, which serves information, establishes, stores, sorts, uses and distributes. Its aim is the fact that the management function of an entity as well as its everyday operation should be supported (Heteyi, 2007). The management information system makes the rapid and harmonized data serving possible. Due to its ability, it improves the

efficiency of the internal information spread. The aim of the MIS is supporting the management decision making in a maximum way.

The MIS is capable of holding the data in different databases used at the university into a single integrated system. By due to the use of the appearing data management strategic indicators may be developed. On the basis of preparing reports in previously scheduled periods the managers may follow the tendencies of these management processes. However, its main problem is the fact that only on the indicators are concentrated, which were determined by the management demands during the preparation of standard report plans. The opportunities of tools utilized by management information systems are continuously expanding. That means the management control system appears here as a major support, as it supports the management in a way that it provides information, where implementation is necessary. Data is gained from here for the MIS. By this it is possible for the user to make ad-hoc reports by this drawing attention to critical points.

As in case of rally racing, the driver knows how many bends are in the course, to what rate they are dangerous, what speed should be used in them, what the road conditions are (management), the navigator provides a direct help for all these in a way that he or she concentrates on a given part, draws the attention to the dangers in advance in time, provides information on its feature and make recommendations for the driver to reach a better circle time (controller). The task of the driver is to make decisions on the basis of the available data, information and recommendations. On this basis the necessary data are available in the MIS. It depends on the management implementation that what it requires to reach in the market with the institution. The activity of management control system contributes to solving complex decision-making situations fully, and is able to reveal correlations having not been discovered yet. The state of the management information level, however, is twofold. The reason is the fact that if the entity did not exist, this system would not exist either. Its development is as stable as the existing management knows what and how to achieve and by what tools. The management information level does not depend on the management control system level meaning the basis from several aspects (Boda-Szlávik, 2001). Every major activity has an impact on the finance, and the management control system stands next to it as one of the supporting processes, which makes consequences from the available financial data. The development of the information software has radically changed the method and speed of decision making activities. In our accelerated world the entities are able to survive, which do not make decisions based on unfounded assumptions. If they wish to strengthen their positions, they have to know the market better than their direct competitors, and for this sake they have to have wide-spread pieces of information. The 21<sup>st</sup> Century requires the fact that the internal processes should become more visible thus making possible for the optimization of the operation and revealing fields where the costs may be reduced.

#### **4. Conclusion**

In order the fact that the university could react on changes coming from the environment in time and properly it is crucial to know the tendencies of the necessary data in the available databases. The sooner the implementation occurs, the more effective the utilization of the available sources may be. For the sake of the proper quality of decisions, it is required to develop a proper information system of management control system. For the rapid and safe operation it is essential to build up an information background as well. As the pyramid illustrates, they are systems built on each other, but they have to be able to operate back and forth. The information systems of management control system always give a little more, in this way it is located above the other sub-systems, but clearly under the MIS. If the sub-systems being developed or the already developed ones did not provide information properly, this decision supporting system would lose its main function and its existence would become meaningless. In this way the management control system is only worth developing if the basic systems are able to serve proper information. The management reports and the concerning indicators should have to be established in a way that a continuous comparison of the plan and actual data should become possible.

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