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## ENSURING THE EFFECTIVENESS OF MANAGEMENT DECISIONS IN HIGHER EDUCATION: METHODOLOGICAL APPROACHES

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**Introduction and Objective:** in the modern business environment of Ukraine higher education institutions (HEIs) raises the problem of ensuring the effectiveness of decision-making at university in terms of real autonomy.

**The aim** - to develop an algorithm of decision-making management in higher education based on assessment of the real level of university autonomy.

**Research methods.** The methodological base of research served achievements of modern management science to study the best ways of making management decisions in the universities in conditions of constant external changes and internal transformations. The study used the method of expertise and analytical method - to develop a methodological assessment provisions of the autonomy of universities; method of economic-mathematical modeling - to calculate the integral index of universities autonomy; method of Saaty hierarchy - for the calculation of important factors of autonomy; modeling method - for building algorithm of decision-making in higher education in terms of real autonomy.

**Results.** The proposed by author method of evaluation of real autonomy of universities, which account increases of the efficiency of management decisions; algorithm of management decisions in terms of ensuring the effectiveness of the institutions, with taking into account the real level of autonomy of universities. All this contributes to explore possibilities and directions of development of particular universities and national education system in general.

**Conclusions.** In the article, the author proposes the method of evaluation of university autonomy, which is based on a system of indicators, by the weight of their influence on the efficiency of management of the university, calculation of the integral index of autonomy and formalize qualitative characteristics of this value. Based on the evaluation of university autonomy author proposed methodical approach to management of decision-making in higher education in terms of real autonomy.

**Keywords:** university management, decision-making, university autonomy, economic analysis.

**Problem and its connection with important scientific and practical tasks.** The level of economic development today requires from higher education institutions respect some rules to function in the market environment. This causes various methods of economic and financial assessment of their activities in management decisions. It is in these conditions is the relevance of early detection of signs that indicate the degree of efficiency of the university at a time using the most detailed and accurate information. These circumstances contribute finding new approaches to the study of the state of the university in the educational market and use of assessment techniques of analytical information.

**Analysis of recent research and publications.** The management institution of higher education, in particular its effectiveness in the market environment has been studied by both Ukrainian and foreign scientists such as A. Asaul, A. Berets, R. Byrman, S. Belyakov, I. Bohachevsky, D. Brown, Y. Varlanov, J. Wagner, L. Verbitskaya, M. Gladchenko, A. Grin, I. Gryshchenko, L. Draganchuk, K. Drezynskyy, D. Yevzrezov, D. Efremenko, M. Zgurovsky, I. Kalenyuk, C. Kvyt, B. Clark, B. Flint, A. Kuzmin, A. Kuklin, V. Lugovoi, I. Markin, G. Reilly, V. Rozghok, A. Romanovsky and others.

**Unresolved parts of the study.** Research of scientists, for the most part was devoted to methods and tools for management of the university. Remains unexplored problem of efficiency of decision-making at the university, which has its own characteristics and as the subject of the services market, and as a public institution in a real autonomy.

**Aim of the study** is to develop an algorithm of management decision-making in higher education institution in market conditions and the real level of university autonomy.

**The presentation of the main results and their justification.** Ensuring effective functioning of the educational sector is determined that in the area of market relations activity of institutions depends on a number of external and internal factors. The effectiveness of the university is determined by how fast it will orient itself in the system of market relations and objectively take the right decision on development strategy, methods and tools that should be used for the realization of new tasks before it [1].

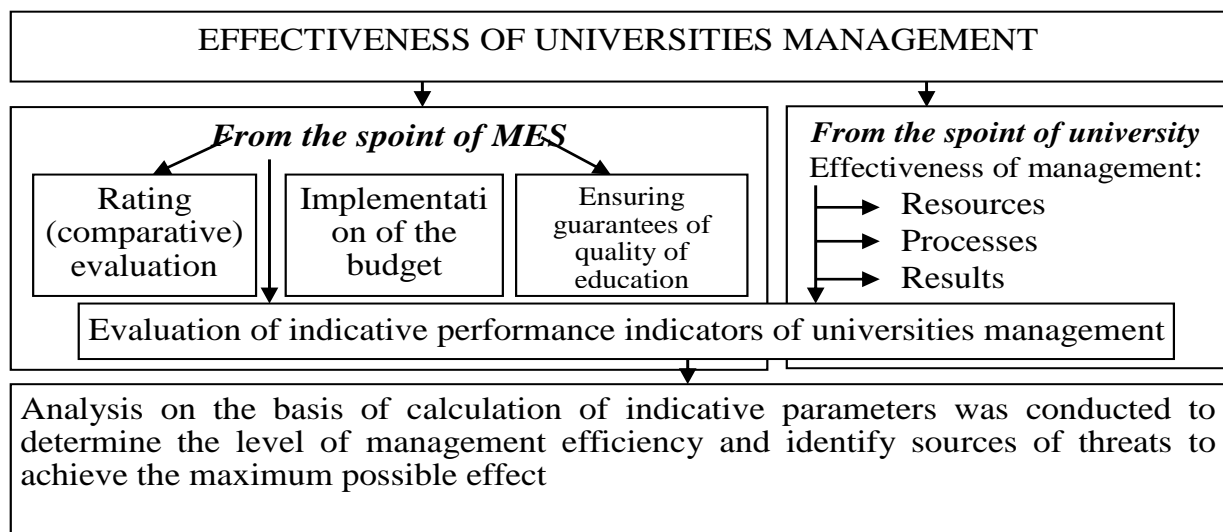
Presumably the best way to evaluate the effectiveness of the management of higher education institution in general and administrative decisions, in particular - is to analyze the status of its activity, which involves gathering the necessary information about the university, including information about its activity in recent years, its scope, financial condition, profitability, prospects and make the evaluation of universities performance.

The question of analyzing the effectiveness of the management of the university, especially in real autonomy is important both for itself and for the Ministry of Education and Science of Ukraine. Educational Institutions seeking to expand its activity, increase its volume and gain unique competitive advantages in the market of higher education. In order to achieve these goals and avoid unwanted effects of different forms of risks that could impair the effectiveness of the institutions, it is necessary to make effective financial policy and use the teaching methods of economic analysis to justify the possibility of the university, including its strengths and weaknesses and determine the effectiveness of its functioning in real autonomy.

Today the situation has changed dramatically, especially with the adoption of new legislation on higher education. Now, every school has to make their own management decisions, including financial, to develop strategies and identify the resources choose the most optimal forms of engagement and analyze the cost-effectiveness of the implementation of the planned measures.

This process becomes complicated by that the only method that would allow to justify management decisions in terms of the effectiveness of the university and to predict the consequences, does not exist [7]. Lack of elaboration of this issue contributes the ineffective policies of universities for the implementation of the activity causing the deterioration of the financial and economic situation and provokes a growing number of higher education institutions that operate inefficiently.

We believe that interested parties in improving university management is the heads of the educational institution and, in fact, the Ministry of Education and Science of Ukraine. Therefore, the analysis of management efficiency of universities can be seen from the position of the Ministry of Education and Science of Ukraine, as well as from the position of the university (Figure 1). Since our task is to study the internal aspects of the management of the university, it is advisable to consider further the effectiveness of management from the position of the university.



Developed by the author

Figure 1. **Approaches to the analysis of Universities management efficiency**

Note that while expanding autonomy and growth opportunities for universities to increase the volume of its activities, important role of economic analysis of financial and economic activity, one of tasks of which is a comprehensive and systematic study of the mechanism of formation, and to ensure its activity (in terms of the analysis of economic indicators) in order to maintain financial stability and safety of the university.

Assessing the potential impact of management decisions should be taken the analysis of alternative terms, e.g. take a decision without taking into account the factor of autonomy. This option does not consider promising as university autonomy has a direct impact on the activity and development and consequently on the effectiveness of a management decision. The easiest option to avoid all possible risks is a complete rejection of the decision. This option also consider unfortunate because it is impossible to increase the effectiveness of the university. The best, though physically the most costly option is the decision on the basis of performance of the university and its actual level of autonomy.

Indisputable is the fact that autonomy has a direct impact on the efficiency of university management. However, various aspects of autonomy have varying degrees of impact. In this regard, there is a need of developing a system of indicators and methods of assessing the autonomy level of universities.

Algorithm proposed by author of evaluation of university autonomy, which consists of six steps: defining the indicators and indicative parameters of autonomy; evaluation of each indicator; determining the weight of indicator; expert evaluation of the education system; calculation of the integral index of autonomy; determine the grading scale and characteristics of autonomy levels.

Based on the indicators proposed by the European University Association (EUA) [9] expanded the range as indicative indexes of autonomy systematized by types of autonomy (indicators of organizational, personnel, financial and academic autonomy). Each group of indicators has several features that characterize a particular type of autonomy by the indicative indexes.

The calculation of the integral index of autonomy is performed by formula:

$$A = \sum_{i=1}^4 a_i \cdot k_i \quad (1)$$

$i$  – name of indicators (total of 4);

$a$  – the average expert assessment of the  $i$ :

$$a_i = \frac{\sum_{j=1}^n E_j}{n} \quad (2)$$

$E$  – quantitative expert assessment of  $j$  indicator of autonomy

( $E=0,25; 0,5; 0,75; 1$ );

$j$  – indicator name;

$n$  – number of indicators in group;

$k$  – weight ratio of the  $i$  group of indicators,  $0 \leq k \leq 1$ .

Determining factors of importance for each group of indicators proposed to implement a method based on pairwise comparisons matrix of T. Saaty [4]. To assess the degree of consistency of expert opinion, conducted concordance rate, which is 0.891, indicating a high degree of consistency of expert opinion.

To characterize the overall assessment of university autonomy proposed assessment scale from 0 to 1 with extended range of ratings:

0,76-1 – the maximum level of autonomy for universities at which university has the highest level of freedom in decision-making, particularly in the choice of their development strategy and its implementation methods;

0,51-0,75 – sufficient autonomy, universities have a high enough level of freedom, limited by general rules of employment, economic and education legislation;

0,26-0,5 – the average level of autonomy for the universities at which university has a very limited degree of freedom that impedes development in some areas, mostly limited the financial freedom of Universities;

to 0,25 – low level of autonomy, universities almost have no independent choice in making decisions, most of which performed by the highest authoritative body.

For testing of assessment methods of the autonomy, the study of Ukrainian and other European universities was performed. In a representative sample was included state-owned universities of Ukraine, Belarus, Georgia, Poland and Germany. Summarized results of the evaluation presented in Table 1.

As a result of evaluation of university autonomy can be concluded that most universities autonomy, included in the representative sample is sufficiently high (ranging from 0.51 to 0.75), but the university freedom is partially limited by general rules of employment, economic and educational legislation. The best results among comparable showed Poland, which generally has the highest level of autonomy - 0.739. This suggests that Polish universities have the most rights and can independently make strategic decisions in the management of the university.

Table 1

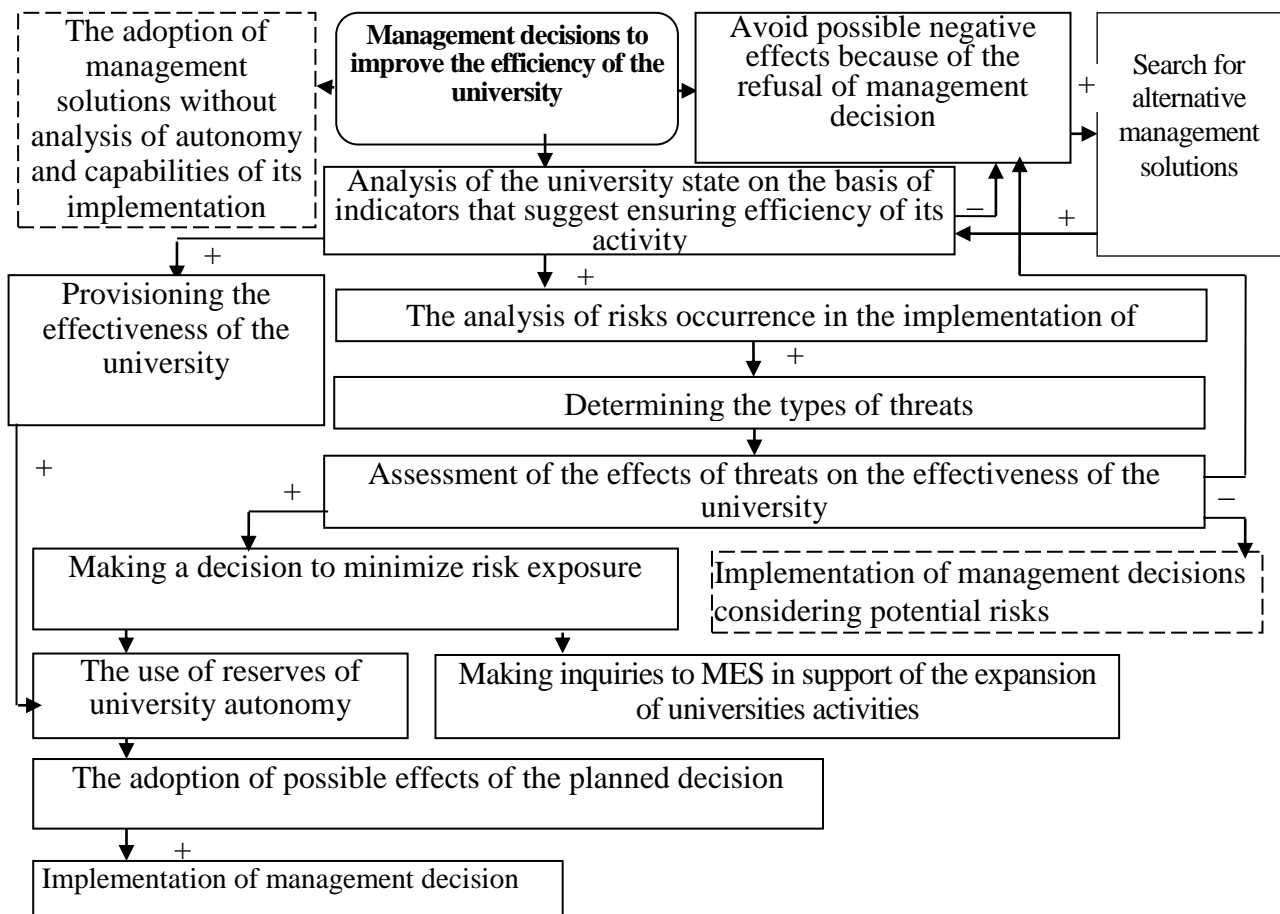
**Generalized evaluation of the autonomy level of European Universities**  
(Calculated by the author)

	INDICATORS of autonomy	Weight ratio ( $k_i$ )	The amount of indirect peer reviews by groups of indicators ( $a_i$ ) adjusted for coefficients ( $k_i$ )				
			Ukraine	Belarus	Georgia	Poland	Germany
1	Organizational	0,184	0,077	0,130	0,107	0,153	0,123
2	Personnel	0,238	0,128	0,196	0,179	0,221	0,204
3	Finance	0,339	0,170	0,222	0,201	0,275	0,191
4	Academic	0,240	0,162	0,138	0,138	0,168	0,222
	<b>The integral indicator</b>	<b>1,00</b>	<b>0,536</b>	<b>0,686</b>	<b>0,625</b>	<b>0,818</b>	<b>0,739</b>

Comparing the level of autonomy of universities of countries represented, it should be noted that all Ukrainian universities have the lowest level of autonomy. However, it has fact that domestic institutions have higher average level of autonomy is a significant achievement and the result of the progressive reforms of recent years, most of which is the adoption of the new Law of Ukraine "About Higher Education".

Note that the extension of autonomy in higher education is by no means an easy task and the experience of other countries shows that the process can take several decades and the result depends on the development of the national education system, readiness of the state to provide freedom of universities and institutions to take responsibility for their own activities, in particular the quality of training specialists.

Based on the above alternative conditions, management decisions schematically outlined and justified the order of optimizing management decisions to improve the efficiency of the university (Figure 2).



Developed by authors

Figure 2. **Algorithm of decision-making process in terms of ensuring the effectiveness of the university activity**

The originality of the proposed algorithm is the consideration of alternative conditions for the development of solutions to improve the efficiency of the university and the fact that the choice is evaluated with taking into account consequences and opportunities to minimize their impact on the effectiveness of the functioning of the institution. This algorithm of management decisions allows evaluating their risk and correctly and timely adjusting the target settings required to eliminate the factors of negative impact on the universities with a view to ensuring effective management.

Activities of Universities in the educational market related to risk because it operates in an environment characterized by complexity and dynamism [2]. In addition, the university management - is, above all, management based on constant innovation. However, this model of innovation is risky in nature, as it involves constant changes in the university and the desire to take a leading position in the education market. To survive in today's conditions, it is necessary to weigh on bold, non-trivial administrative decisions, and this increases the risk.

Risk is an uncertainty about possible losses towards the goal. Risky situations are usually accompanied by three conditions: the presence of uncertainty; the need to choose alternatives; the inability to accurately assess the effects of alternatives [6]. The most dangerous for the successful functioning of institutions are the external risk factors, namely unfair business partners, corrupt government structures, political and financial instability, limited autonomy of educational institutions. Equally numerous are internal factors affecting the level of risk, the main ones are: Strategy of the university, activity principles, resources and their use, the quality and level of use of marketing and management.

### **Conclusion**

Thus, scientific novelty is the development of methodological approaches of research and evaluation of indexes of university autonomy, based on the analysis of indicators of European autonomy. This creates a scientific basis of forming methods for solving modern problems of autonomy impact assessment on the effectiveness of the university activity and economy of higher education in general.

Implementation of the proposed algorithm of decision-making in terms of ensuring the effectiveness of the university on the market position promotes the adoption and choosing of alternative management solutions using estimation of autonomy level of higher education; assessment of possible risks in the face of uncertainty; evaluation of performance, with taking into account the real state of autonomy. The necessity of taking into account the level of autonomy in decision-making to improve the efficiency of the university, which improves the quality and effectiveness of management decisions of university.

The practical value of the presented research results lies in the possibility of grounding management decisions and determine the most effective strategies of universities, with taking into account the real autonomy level and financial-economic state of the university.



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