

used with regard to the efficiency hypothesis according to the examined informational content. The aim of this article is to make a survey of the research studies, methods and especially results on efficiency tests of the past 40 years. To this purpose, we shall examine efficiency on the basis of information used on the market (endogenous or exogenous), rather than the forms of efficiency (weak and semi-strong). The analysis of efficiency according to information rather than Fama's forms is merely a change of terminology. On the other hand it allows better understanding of the type of information being examined. Research studies have examined efficiency on the basis of endogenous information, through predictability tests on returns, variance ratios, long memory, and seasonal bias or on trading volume analysis. Each of these analyses is carried out with a specific econometric method which has evolved and strengthened with the successive authors. In the case of exogenous information, the evolution has been quite different. The method of analysis has remained unchanged since the first research studies on the topic of announcement effects. All these studies are always undertaken in the context of specific events. To this purpose, they use data from a great number of firms in order to study the announcement effect. Recently, some innovative research studies have broadened the scope of previous analyses. They have worked on manifold exogenous information, and no longer on the basis of a few announcement effects. They introduce an informational analysis to identify the informative content. The authors classify the different types of exogenous information according to the notion of 'informative coloration' defining the impact of exogenous information on returns. These authors show that the market does not immediately assimilate exogenous information into stock returns. These results significantly challenge efficiency with regard to exogenous information.

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THE USE OF CZEKANOWKI'S DIAGRAM IN A GROUPING OF PUBLIC UNIVERSITIES

Managing public universities depends to a great degree on effective management of economic information. Its presentation is particularly vital and it should be clear and open. These requirements are especially important in comparative analysis which allow to create rankings. The rankings allow to undertake certain actions in the area of evaluating situation of a unit with reference to other similar institutions, eg. those that are in a given group. Spatial analysis of costs can be used by internal and external decision-makers in a process of creating a new strategy of an effective usage of public sources. Obtained results should constitute a basis for further more detailed cause and effect analysis.

The aim of this work is to present possibilities of methods by which we can group budget units due to the level and structure of generated costs in order to rationalize politics of financing universities. This article is a continuation of conducted researches in the area.

The study was conducted in a spatial frame during two academic years and concerned 57 public universities of academic character. The researched universities were initially divided into six groups according to the following scheme: general universities, universities of technology, universities of economics, universities of life sciences, universities of physical education, and pedagogical universities. The research was conducted in 2004 and 2006. The data concerning structure of costs in particular years were standardised. A starting point for the research was a matrix of distance, defined as a certificated 'town'. Distance measuring instruments of this matrix were divided into five classes of similarities. Each similarity class were given graphic symbols which create so called chaotic Czekanowski's diagram.

A classification of public universities due to the level and structure of costs in a spatial frame was conducted with the usage of Czekanowski's diagram. This method is the oldest taxonomic

method which was first published in 1909 by a well known anthropologist Jan Czekanowski. At present it is also used in other fields of science as a universal method of statistical classification. One of an advantage of Czekanowski's taxonomic method is that while classifying the whole distance matrix is considered. Very often objects are classified in typological group only when there are similarities of the highest degree between them all or between most of them.

To optimize ordering maximalization of function criterion was used:

$$F = \sum_{i=1}^n \sum_{i'>1}^n d_{ii'} w_{ii'} \quad (1)$$

where $w_{ii'}$ is the weight of elements of distance matrices, defined on the basis of one of the following formula:

$$w_{ii'} = \frac{|i - i'|}{n - 1} \quad (2)$$

$$w_{ii'} = \frac{1}{n(n-1)} (2n |i - i' - 1| + i + i' - (i - i')^2) \quad (3)$$

$$w_{ii'} = \frac{1}{n(n-1)} (2n |i - i'| + 2 - i - i' - (i - i')^2) \quad (4)$$

Objects grouping ordered by the usage of Czekanowski's method was done with the usage of so called measuring instrument of grouping correctness. The basis for constructing this measuring instrument is the assumption that in an optimal grouping particular groups should be composed of objects between which there is so called close connection and between groups so called distant connection. A measuring instrument of grouping correctness is defined as:

$$Q = \frac{n^{pb}}{n^w} \cdot \frac{n^{pd}}{n^z} \quad (5)$$

where n^w , n^z is a number of connections respectively inside and outside of isolated groups, n^{pb} , n^{pd} is a number of connections respectively close inside groups and distant outside of isolated groups.

Additionally, in this paper another criterion of public universities division was used as to compare if the obtained classification is a natural division of universities and follows from its internal structure. To evaluate a level of similarity of results from two different classifications of the same group of economic objects we use indices of grouping results conformity. To estimate the conformity of classification results there was another division of public universities used according to a criterion of a number of students with the usage of cross tabulation and the index of division conformity. Characteristics regarding the number of students included students of intramural studies and extramural (including evening) undergraduate and master's students and the number of intramural and extramural post graduate students.

Because of grouping, after optimization of correctness measuring instrument for general universities we have received 7 groups of objects, for universities of technology 9 groups, for universities of economics and for universities of physical education 4 groups, 5 groups in case of universities of life sciences and 3 groups for pedagogical universities. Each division of each university category was given a value of measuring instrument of correct grouping, a representative and average value of variables that were used in grouping. Conformity of divisions was indicated on the basis of cross tabulation. The highest level of conformity of grouping was in case of pedagogical universities but this is an effect of small number of universities taken into consideration. This is the most probable reason for such results in classification. Universities of

physical education and universities of economics were characterized by high level of grouping conformity regarding two different characteristics. The lowest value of conformity index in 2004 and 2006 obtained general universities for which conformity of students number and generated costs in the groups were on the level of 50%.

Multifeature grouping of public universities is realized on the basis of cluster analysis with the usage of Czekanowski's diagram method and it gives significant quantitative and qualitative information both from research and general point of view. Diagram method has led to selection of object classes which are most similar to each other and in respect of taken characteristics and at the same time totally different objects from other cluster. Identification and characterisation of these clusters allows to reflect the phenomenon of object differentiation and to detect the following regularity between objects and its attributes and to make generalizing conclusions significant from the point of view of rational management politics of internal and external decision-makers at universities.

The application of Czekanowski's diagram in an initial analysis of a level and structure of costs of public universities is a tool which can be used by internal and external decision-makers in a process of creating a strategy of a creative usage of public resources and ranking lists. The results should constitute a basis for further and at the same time more detailed cause and effect analysis.

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PRINCIPLES OF THE EFFECTIVE RISK MANAGEMENT IN THE ORGANIZATION

Risk Management

The concept of risk management can be defined as follows:

A process to identify, assess, manage, and control potential events or situations to provide reasonable assurance regarding the achievement of the organization's objectives [3].

The implementation of the system of the risk management in the organization is a meaning challenge for contemporary organizations. It doesn't mean that organizations aren't taking these issues. In many organizations a process of the risk management is functioning. This is done through the identification, analysis and risk assessment. Many organizations are taking defined actions, which are associated with risk treatment. These activities are based on:

- a) avoiding the risk,
- b) using of emerging opportunities,
- c) sharing the risk with another parties,
- d) tolerating the existing level of risk,
- e) reducing the risk.

The main objective of risk management is risk identification and effective treatment of risk.

Risk management should be a continuous and developing process which runs throughout the organization's strategy and the implementation of that strategy. It's should address methodically all the risk surrounding the organization's activities past, present and in particular, future [1, p. 2].

Risk management is the primary task of the organization's management. The main tasks of management responsible for the risk management process are [5, p. 37]:

- a) understanding, what risk the organization is exposed,
- b) supporting all initiatives of employees, which are aimed more efficient of risk management,
- c) using of the experience of the departments responsible for the identification, analysis of risk situations,
- d) facilitating the process of the decision making,
- e) definition of risk management policy,
- f) preparing of periodic reporting to top management about the risk,