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A quantitative evaluation of the company environment for the formation of its effective expansion strategy

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Abstract

The successful development of a company's expansion strategy, which determines the best corporate performance, is mainly affected by its environment which is defined by multidimensional assessment criteria acting in different directions. The incorporation of all such criteria into one generalizing and complex dimension is enabled by multi-criteria assessment methods. The article focuses on theoretical justification for the application of multi-criteria evaluation methods and their practical application in identifying the actual and forecast environmental situation of the company, and provides a solution for the formation of an effective expansion strategy using the complex evaluation results of the company environment. Through the examination of a specific company by employing the possibilities of the proposed analytical solution the expansion strategy is formed for an effective development.

JEL classification: M2; O10

Keywords: Company's environment; Company's expansion strategy development; Multi-criteria methods; Determination of the criterion weights.

1. Introduction

For a company to develop in a successful manner, it has to continuously adapt to the ever-changing environment, and to understand the potential impact of environmental factors on the performance results of the company as early as possible. It is critical that the company's environment be fully assessed in order develop an effective strategy. This assessment of where the company is now in terms of its environment determines the choice of strategy. In addition to the evaluation of the actual environmental situation of the company, it is necessary to

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understand how the environment may affect the company performance in the future. The aim of the article is to provide quantitative evaluation of the actual and forecast environment of the company using the multi-criteria evaluation methods and, on the basis of the findings, to generate an effective expansion strategy for the company.

A company's environment is a complicated and complex phenomenon from the point of view of developing an expansion strategy. To evaluate it quantitatively a hierarchy-based system of criteria (Ginevičius, 2007) must be developed. To this end the criteria used in theoretical models (Evans & Short, 2013; O'Shaughnessy, 2014; Everett, 2014; Zavadskas & Turskis, 2011; Bocken, Rana, & Short, 2015 and others) which affect the corporate environment in terms of strategy development were analysed. A company's environment was defined in an objective and structured manner using a hierarchical system of 43 different criteria, with different impact on a common result (Table 5). As criteria are multi-dimensional and act in different directions, multi-criteria assessment techniques enable them to be merged into one complex dimension which can then be used to develop a strategy.

2. Materials and methods for the formation of an effective company expansion strategy

Values and weights must be set for the criteria of the company's environment for the application of the multi-criteria assessment methods in developing its expansion strategy.

To set weights for the criteria subjective methods are used where specialists' (experts') opinions constitute the basis of assessment (Ginevičius & Podvezko, 2003, 2004a, 2004b; Hokkannen & Salminen, 1997; Zavadskas, Kazlauskas, Banaitis, & Kvedarytė, 2004; Ginevičius, Podvezko, & Mikelis, 2004) as well as objective ones – where specific values of weights depend on the structure of the block of criteria details (Hwang & Yoon, 1981; Ustinovičius, 2001). Furthermore, subjective and objective weights can be generalized and combined in an integral manner (Beuthe & Scanella, 2001; Fan, Ma, & Tian, 1977; Ustinovičius, 2001). Of these three, the subjective measurement is the main one; however, it requires high expert qualification since it determines the accuracy of their evaluation. Besides, if they are not sufficiently qualified, contradictory results may be obtained. For this reason, criteria weights may be adjusted to the multi-criteria assessment, if the degree of compatibility of expert assessment is fixed. This is determined by the coefficient of concordance which is calculated on the basis of ranking the compared objects. The result of expert evaluations is the matrix $E = \|c_{ij}\|$ ($i = 1, \ldots, m$; $j=1, \ldots, r$), where m is the number of compared criteria (objects), and r is the number of experts. Experts can assess the expected value in different ways. For the assessments, any scale of measurement can be applied, for example, measuring in criteria units, percentage, unit fractions, ten-grade system or Saaty's pair-wise comparison scale (Saaty, 2008). To calculate the dispersal coefficient of concordance, however, only the ranking of expert criteria can be used. Ranking is the procedure where the most important criterion is attributed the rank which is equal to one point, the second criterion in terms of importance is given two points, etc. and the least important criterion is given rank m; where m is the number of compared criteria. Equivalent criteria are attributed the same value, namely, the arithmetic mean of ordinary ranks.

The results of the determination of criteria ranks can be applied in practice, if a sufficient level of compatibility of expert opinions is set. Expert opinions and attitudes to the problem being solved often differ and can even be controversial. The compatibility of opinions is determined by the coefficient of concordance which is calculated on the basis of the ranking of compared criteria. The dispersal coefficient of concordance was defined by Kendall (1970). The idea of the coefficient was linked to the number of ranks of each criterion c_i with regard to all experts:

$$c_i = \sum_{j=1}^{r} c_{ij}, \tag{1}$$

to be precise, (it was linked) to the variation of dimensions c_i from the total mean $\bar{c}$ by the total sum of squares S (the analogue of dispersion):

$$S = \sum_{i=1}^{m} (c_i - \bar{c})^2. \tag{2}$$