

Effectiveness and Risk Assessment of Organization's Investment Project with The Use of Uncertain Data*

¹Marian KOPCZEWSKI, ¹Zbigniew GROBELNY, ¹Witalis PELLOWSKI
And ²Magdalena SZYDLOWSKA

¹Faculty of Security Studies, General Tadeusz Kosciuszko Military University of Land Forces, Czajkowskiego 109 street, 51-147 Wrocław, Poland

²Faculty of Management and Security Studies, Pomeranian University in Slupsk, Arciszewskiego 22a street, 76-200 Slupsk, Poland

Correspondence should be addressed to: Marian KOPCZEWSKI; marian.kopczewski@awl.edu.pl

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And Magdalena SZYDLOWSKA

Abstract

Making a choice among alternative investment projects only on the grounds of an economic analysis does not take into consideration experiences characterizing preferences of investors, information characterizing reliability of contractors, etc. The presented approach makes it possible to objectify this type of choice. Application of the fuzzy inference gives the possibility to transform actual linguistically specific requirements into measurable values which give a more realistic image of meeting the investor's requirements by specific investment projects. If decisions are to be taken on the basis of ambiguous data obtained from economic research, it is worth minimizing the risk of a wrong choice by verifying additional, non-economic criteria of project assessment. Representation of uncertain data in categories of fuzzy sets and statistical methods allows using fuzzy inference techniques to also assess qualitative characteristics of the project implementation. Confronting these assessments with economic analysis results allows a more comprehensive assessment of the choice made. The proposed approach to using inaccurate information may support making decisions, however, it may also increase the number of choice variants. The advantage of this method constitutes the possibility of providing details of the data on the grounds of which a choice is to be made and taking into consideration the subjective requirements of the investor. The proposed method the possibility of using additional, non-economic tools to support investment decisions. All of these procedures are aimed at supporting making decisions on selecting the best investment solution and increasing the possibility of assessing the profitability of an investment project.

Keywords: making investment decisions, project assessment methods, economic analysis, investment effectiveness assessment