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*"Gheorghe Asachi" Technical University of Iasi, Romania*

# ORGANIZATIONAL SUSTAINABILITY SCORE – PROBABILITY APPROACH USING FUZZY LOGIC

**Ionuţ Viorel Herghiligiu[1,2*], Ioan-Bogdan Robu[3], Adrian Vîlcu[1], Marius Pîslaru[1], Ștefana-Cătălina Pohonțu-Dragomir[1], Mariana Cojocaru[1], Cristina Maria Herghiligiu[4]**

*[1]"Gheorghe Asachi" Technical University of Iași, Faculty of Industrial Design and Business Management, 29 Prof. D. Mangeron Blvd., 700050, Iași, Romania*
*[2]Academy of Romanian Scientists, Ilfov 3, 050044 Bucharest, Romania*
*[3]"Alexandru Ioan Cuza" University of Iasi, Faculty of Economics and Business Administration, 22 Carol I Blvd., 700505, Romania*
*[4]"Gheorghe Asachi" Technical University of Iasi, "Cristofor Simionescu" Faculty of Chemical Engineering and Environmental Protection, 73 Prof. D. Mangeron Blvd.,700050, Iași, Romania*

## Abstract

Sustainability has become a pressing issue in the current dynamic context, as well as for future development perspectives. Organizational sustainability evaluation represents a complex statistical approach, sometimes presented in the literature as contradictory and unclear. However, there is a current need for flexible statistical methods and techniques that have a wider spectrum of applicability. The research objective is to improve the evaluation process of organizational sustainability by combining fundamental and applied research. To achieve this, the studied population consists of Romanian companies listed on a regulated capital market (Bucharest Stock Exchange). Thus, to evaluate and model, the final sample proposed for analysis includes 30 large companies during the period 2010-2019. The research results aim to enhance the organizational sustainability literature by proposing a new methodology to assess it. Besides its main aims, supported by an empirical study, the article presents and estimates the components associated with organizational sustainability dimensions. Additionally, it obtains, in a computational environment (MATLAB software – fuzzy logic), probability diagrams associated with the organizational sustainability score. Hence, this work provides, through a solid holistic approach, an effective and viable instrument to estimate a real organizational sustainability score.

*Key words:* fuzzy logic, organizational sustainability score, principal component analysis, probability

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[*] Author to whom all correspondence should be addressed: e-mail: ionut-viorel.herghiligiu@academic.tuiasi.ro; Phone: +40 232 230491; Fax: +40 232 230491