

## Accepted Manuscript

Title: A shareholder voting method for proxy advisory firm selection based on 2-tuple linguistic picture preference relation

Author: Ru-xin Nie Jian-qiang Wang Lin Li

PII: S1568-4946(17)30398-8

DOI: <http://dx.doi.org/doi:10.1016/j.asoc.2017.06.055>

Reference: ASOC 4324

To appear in: *Applied Soft Computing*

Received date: 27-11-2016

Revised date: 9-5-2017

Accepted date: 28-6-2017



Please cite this article as: R.-x. Nie, J.-q. Wang, L. Li, A shareholder voting method for proxy advisory firm selection based on 2-tuple linguistic picture preference relation, *Applied Soft Computing Journal* (2017), <http://dx.doi.org/10.1016/j.asoc.2017.06.055>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# A shareholder voting method for proxy advisory firm selection based on 2-tuple linguistic picture preference relation

Ru-xin Nie<sup>1</sup>, Jian-qiang Wang\*<sup>1</sup>, Lin Li<sup>2</sup>

1. School of Business, Central South University, Changsha 410083, PR China

2. School of Business, Hunan University, Changsha 410082, PR China

Correspondence should be addressed to Jian-qiang Wang: [jqwang@csu.edu.cn](mailto:jqwang@csu.edu.cn)

**Abstract:** In a modern economic and regulatory system, proxy advisory firms as the third party noticeably engage in promoting the competitiveness of enterprises by instructing corporate governance. Shareholders tend to have the authority to vote for an optimal proxy advisory firm. Consider the characteristics of voting selection problem, a group decision-making (GDM) voting method based on 2-tuple linguistic picture preference relation (2TLPPR) is newly generalized in this paper to resolve it. First, for a better description of the voting context, 2-tuple linguistic model is introduced into picture fuzzy sets (PFSs) as the representation of voting information, and 2TLPPR is employed to the said issue owing to its capacity to model synthetic voting information. Second, a novel ranking method that emphasizes the risk preference of decision makers (DMs) is investigated for further analysis. Third, motivated by predefined theoretical basics, we explore an additive consistency based conversion method to approximate consistency; this method adequately considers the influential factors such as risk preference and contradictory judgment of DMs. Fourth, 2-tuple linguistic picture power weighted averaging (2TLPPWA) operator is utilized as the aggregation method to weaken the impact of non-cooperative DMs. A 2TLPPR based GDM framework, which consists of consistency conversion as well as aggregation and ranking methods, is constructed to match the voting selection context. Finally, we conduct the GDM framework on an illustrative example concerning selecting a proxy advisory firm, and further demonstrate its feasibility and reasonability by applying it to a sensitive analysis and comparison analyses.

**Keywords:** preference relation; 2-tuple linguistic model; picture fuzzy set; additive consistency; proxy advisory firm voting selection

## 1. Introduction

The development of the increasing socio-economic has required enterprises to continuously promote their core competitiveness through effective strategies. A proxy advisory firm plays an essential role in public

Download English Version:

<https://daneshyari.com/en/article/4963013>

Download Persian Version:

<https://daneshyari.com/article/4963013>

[Daneshyari.com](https://daneshyari.com)