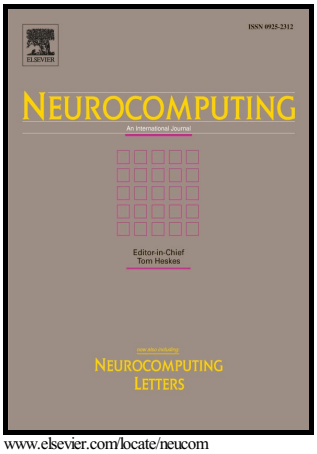
Author's Accepted Manuscript

A fuzzy weighted average approach for selecting portfolio of new product development projects

Marcin Relich, Pawel Pawlewski



www.elsevier.com/locate/neucom

PII: S0925-2312(16)31159-6
DOI: http://dx.doi.org/10.1016/j.neucom.2016.05.104
Reference: NEUCOM17611

To appear in: *Neurocomputing*

Received date: 15 November 2015
Revised date: 12 March 2016
Accepted date: 2 May 2016

Cite this article as: Marcin Relich and Pawel Pawlewski, A fuzzy weighted average approach for selecting portfolio of new product development projects *Neurocomputing,* http://dx.doi.org/10.1016/j.neucom.2016.05.104

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 galley proof before it is published in its final citable 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

ACCEPTED MANUSCRIPT

A fuzzy weighted average approach for selecting portfolio of new product development projects

Marcin Relich[a,*], Pawel Pawlewski[b]

[a]*Department of Economics and Management, University of Zielona Gora, Poland*
[b]*Department of Engineering Management, Poznan University of Technology, Poland*

Abstract

New product portfolio selection is a multi-criteria decision making problem including both qualitative and quantitative criteria. Determining the exact values for these criteria is often difficult or even impossible taking into account uncertainty and complexity associated with new product development projects. To assist managers in making portfolio selection decisions, this study proposes a new project portfolio selection model that uses a fuzzy weighted average approach for ranking new product projects and artificial neural networks for estimating project performance. New product development projects are evaluated according to criteria related to marketing, project team, project performance, risk, and strategy. The use of neural networks enables more precise evaluation of project performance criteria and provides additional information in portfolio selection. A case study of the evaluation of new product projects illustrates the usefulness of the proposed approach.

Keywords:
Fuzzy logic, Neural networks, Fuzzy neural system, Multi-criteria decision making, New product screening

Accepted manuscript

1. Introduction

Today's project companies develop an increasing number of products and services, as a response to rapidly changing market trends. As a result, new

*Corresponding author.
Email addresses: m.relich@wez.uz.zgora.pl (Marcin Relich), pawel.pawlewski@put.poznan.pl (Pawel Pawlewski)

Download English Version:

https://daneshyari.com/en/article/4947738

Download Persian Version:

https://daneshyari.com/article/4947738

Daneshyari.com