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A New Approach to Investigate the Performance of Insurance Branches in Iran Using Best-Worst Method and Fuzzy Inference System

Ali Reza Torbati [a], Mohammad Kazem Sayadi [b,*]

[a] Department of Information Technology, Faculty of Engineering and Technology, Electronic Branch, Islamic Azad University Tehran, Iran,
[b] ICT Research Institute (Iran Telecommunication Research Center), Tehran, Iran

*** Corresponding authors email addresses**: mk.sayadi@itrc.ac.ir

Abstract

The purpose of this study is to present a fuzzy expert model to examine the performance of insurance branches in Iran. The aim is to weight the criteria for measuring the performance of insurance branches and according to the experts' perspectives. Our method is developed by the use of Best-Worst Method (BWM) and Fuzzy Inference System (FIS). BWM is used to determine the importance of each criteria and FIS to evaluate and rank the insurance branches. The data for this study was collected from the managers of 52 Dana insurance companies in Iran. By analyzing the data obtained by the questionnaire, it was determined that the criteria such as insurance costs, administrative, general and personnel costs, premium income, deferred claims, marketing and advertising costs, market share of number in issued insurance policies, degree of customer satisfaction, level of employee education, amount of investment, facility to employees, cost of education, research and development costs and manpower skills are the most important criteria for senior executives in measuring the performance of Dana insurance company. In addition, the results of BWM showed that the insurance costs criteria is the most important criteria among others. The results concluded that the proposed model is superior to other methods in the literature in terms of convenience and accuracy.

Keywords: Fuzzy Inference System, Best-Worst method, Performance, Insurance branches

1. Introduction

Performance assessment has been one of the most important issues in the organizations (Angle & Perry, 1981; Ellinger, Ellinger, Yang, & Howton, 2002; Katsikeas, Leonidou, & Morgan, 2000). According to (Gipps, 2002), performance assessment is defined as a "systematic attempt to measure a learner's ability to use previously acquired knowledge in solving novel problems or completing specific tasks". In the case of supply chain, it is defined "as an effectiveness process and activity's efficiency" (Nasab, 2012). It has been found that the performance evaluation of firms is crucial for the sector's development of firms (Ertuğrul & Karakaşoğlu, 2009).

Nowadays, most organizations are operating in a competitive and dynamic environment, an environment which is constantly changing which is difficult to predict. The organizations spend a lot of time to achieve their goals to make competitive advantages, therefore, knowing how much the organizations have achieved their goals, and understanding the organization's position in today's complex and dynamic environment is very important for assessing their performance (Delaney & Huselid, 1996). Currently, the insurance industry is one of the most important economic sectors in each country (Isa & Pope, 2011; Kirkbesoglu & Ozder, 2015). Insurance industry is considered as critical factor of economic development in developing and developed countries. The successful performance of this industry can create incentives for other industries for the development of their economy. Accordingly, insurance companies need to be aware of the environment, the competitors and their performance in order to achieve a strong and effective performance in their organizations and take the necessary actions with regard to this awareness. The evaluation of the performance is one of the important tools of this awareness. In other words, by evaluating performance, management can be aware of how to achieve the goals and perform the necessary operations to be successful in the economic development in national and international levels.

Many decision-making methods have been developed in the area of performance assessment (Georgy, Chang, &