Improved Hamming Distance Method for Measuring Staff Performance Evaluation

Mohamad Shahiir Saidin¹, Muhammad Zaini Ahmad²* and Rasyida Md Saad¹

¹Institute of Engineering Mathematics, Universiti Malaysia Perlis, Pauh Putra Main Campus, 02600 Arau, Perlis, Malaysia

ABSTRACT

Performance evaluation is the annual assessment about the overall works and responsibilities for every staff in an organization or institution. It needs to be measured correctly and fairly in order to pay what the staffs have done in a particular year. In this process, the staffs in the particular organization are evaluated with respect to specific criteria by the assigned decision makers based on their performance in a particular year. Based on the existing literature, the decision makers always overlook the sub-criteria weights in the evaluation process and only focus for main criteria. Hence, this study presents an approach of integrating the subjective and objective weights incorporated with Hamming distance method dealing with main and sub-criteria. A case study at an institute of local university in Malaysia is provided to demonstrate the advantages of the proposed method. Based on the results, the proposed method can determine the most important criteria and the best staff in that institute.

Keywords: Performance Evaluation, Decision Makers, Sub-Criteria Weights, Hamming Distance Method.

1. INTRODUCTION

Performance evaluation can be defined as formal management system which is used to approximate the employee achievement of organization goals, behavior and results in a given time [1]. It has been considered as an indicator for determine the quality of Human Resource Management (HRM) in an organization [2]. By having a good performance evaluation, it will provide the useful and accurate results for the organization. Meanwhile, failing in executing the performance evaluation process will deteriorate the work productivity and job satisfaction. It is agreed that to enhance the quality of work, it is needed for the organization to maximize the employee satisfaction.

However, it is arduous and difficult to determine the staff performance perfectly since it is dealt with human judgments. There are many problems existed in current performance evaluation process which are numerous qualitative indicators, insufficiency of quantitative assessment, unfair and many subjective evaluations [3]. Thus, the evaluation process needs to be performed precisely and accurately to avoid the dissatisfaction among the employees. Regarding to this matter, the HRM is required to develop a reasonable decision making process in order to measure the employees' performance perfectly.

Multi-criteria decision making (MCDM) method is one of the methods that is persistently utilized in decision making area. MCDM methods were presented by many researchers in order to help the decision makers to analyze and construct complex decision models [4]. Some of the