Ranking And Grouping for Scholarship Recipients of the Navy Information Technology Profession

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Abstrak

ABSTRAK

The process of selecting scholarship recipients is a process that must be carried out in the context of providing educational scholarships. For the Navy, education is a very important thing in an effort to increase capability and professionalism in running an organization. The provision of educational scholarships for Navy personnel, especially in the environment of professional informatics, is carried out through selection of candidates' criteria that have been registered. Scholarship recipient data is processed to find the order of the candidates who will be determined as scholarship recipients. Prospective recipient data is considered by looking at certain criteria. Each criterion has a different weight. Based on the weights of each criterion, we can get weights that can be sorted according to certain priorities. For decision makers, many factors influence in determining a decision, so by using the Analytical Hierarchy Process (AHP) method and the Fuzzy C-Means (FCM) method a sequence and grouping of prospective scholarship recipients can be generated from each method. Based on the calculation results, in the AHP data that was entered as many as 747 candidate data, in the initial selection process obtained as many as 107 candidate data whose profession is informatics. All candidate data can be sorted based on the calculation of the assessment of eight criteria and ranking, from rank 1 to ranking 107. For processing time, the AHP method requires a longer time, which is $\pm$ 3 minutes, weighting process $\pm$ 1 minute, and ranking process $\pm$ 1 minute. Whereas in the FCM method, with the same amount of data it takes around $\pm$ 5 minutes until the iteration is complete or until the difference in objective function is smaller than epsilon. For the grouping results, this FCM method found that 43 candidates (40.19%) were strongly recommended, 31 candidates (28.97%) were recommended, and 33 candidates (30.84%) were not advised to receive scholarships with cluster validation in this study was 0.604. Hope in the future can simplify the calculation process for ranking and grouping selection, because it is already a computer application that is easy to use, and is expected to accelerate the selection process.