

ABSTRACT

This research proposed to discuss a decision support system vendor selection at the PT. Terminal Petikemas Surabaya by using AHP and TOPSIS method. AHP is utilized to make a weighting factor for criteria evaluation. Based on this approach, a selected order could be calculated by the TOPSIS method. The research concludes that found the best vendors, the first ranking is vendor C (PT. BTT) with a value of 0.569 , ranking second vendor B (PT.MFA) with a value of 0.518 , and the third-ranked vendor A (CV.AMR) with a value of 0,302. By using AHP and TOPSIS method for this decision support systems can help PT. Terminal Petikemas Surabaya in decision making vendor selection more precise and efficient. This is evident because the weighting of criteria based on a comparison scale of Saaty in AHP is more consistent with the results of the vendor rankings , while TOPSIS has the advantages of choosing an alternative vendor that has the shortest distance from the positive ideal solution and the farthest distance from the negative ideal solution . Resulting in the best alternative vendor because it has the largest distance closeness to the ideal solution.

Keyword : Decision support systems, AHP, TOPSIS, Vendor.