ABSTRACT

PT XYZ is a subsidiary of a State-Owned Enterprise (BUMN) located in East Kalimantan Province and is the largest gas producer in Indonesia. Because PT XYZ is an oil and gas company that operates under regional contracts, each region is given the authority to procure material purchases. In the procurement process, PT XYZ has a Purchasing department that acts as a tender committee. One of the operations of this department carries out a spare parts tender process for MRO (Maintenance Repair and Operation), therefore supplier selection is required. Choosing an efficient supplier as a partner of PT. XYZ uses the AHP (Analytical Hierarchy Process) and DEA (Data Envelopment Analysis) approaches with the CCR Output Oriented model. The AHP principle is used to calculate the priority of criteria and sub-criteria. The results of the weighting of the criteria and sub-criteria based on the questionnaire are used as input for the DEA method. The MRO supplying company in DEA is referred to as DMU (Decision Making Unit), DMU in this study there are 6 suppliers. Furthermore, the DMU which is known to determine the input and output criteria, in this study the input used is cost while the output criteria are quality, flexibility, delivery, security, and compliance. This research produces PT.XYZ MRO suppliers with the best performance, namely: supplier C and supplier F, supplier E, supplier D, supplier A, supplier B.

Keywords: Supplier Selection, MRO (Maintenance Repair and Operation), AHP (Analytical Hierarchy Process), DEA (Data Envelopment Analysis).