

CHAPTER V

DISCUSSION

The research of application of fuzzy analytical hierarchy process for determining pump supplier was conducted in PT. Madubaru PG. Madukismo. Until now, the company still has no fix supplier to supply their machinery equipment including the pump. The company only has some contract suppliers that sometimes leads to unreliable supplier and the company also still have no tools or method to select a supplier. Thus, the purpose of this research is to give suggestion to the company to use an analytical tool to determine their fix supplier. Therefore, based on (Hati & Fitri, 2017) by contracting the right and the best supplier could cause a significant reduction in company's cost.

This research has been done by several steps. First is defining the criteria that will be used for selecting a supplier which are price, specification, delivery, and credibility. The criteria is determined and obtained through the brainstorming process with the experts in the company. After the criteria is determined then, the pairwise comparison matrix is constructed to determine the importance between each criteria. Then, AHP and Fuzzy AHP is used for testing the consistency of the expert opinion and also to calculate the weight for each criteria, sub-criteria, and alternatives.

The pairwise comparison matrix was filled by 2 experts from PG. Madukismo, they are vice president of installation department and staff of purchasing department. The result of the criteria consistency test based on AHP are 0.07 and 0.04 for respondent 1 and respondent 2 respectively, means that the judgment of the 2 experts is already consistent. The result of the total weight for criteria based on the opinion from 2 experts are price (0.51), specification (0.28), delivery (0.14), and credibility (0.08). Based on the

result of the criteria pairwise comparison, the highest weight is price criteria which is 0.51, means that the price criteria become a top priority for determining a suitable supplier followed by specification, delivery, and credibility. The results are the same with the expert opinion regarding determining supplier, PG. Madukismo is concerned the most on the price of a product when they want to supply a product from supplier and did not really concern about the credibility partnership because until now they still doesn't have a permanent supplier and still open up for every company who want to supply to PG. Madukismo.

After obtaining the weights of the criteria, then the weight of the alternatives is determined. The result of the global weights of supplier are PT.X with 0.47, PT.Y with 0.30 and PT.Z with 0.23. The higher the weight, the better of supplier evaluation will become. Based on the result of the alternative weight, PT.X has the highest performance ranking which makes PT.X to be the first priority of selected supplier for supplying the material, then followed by PT.Y, and PT.Z. The overall rank is PT.X is the first, PT.Y is the second, and PT.Z is the third. The Figure of the alternative weight is shown in the Figure 5.1 below:

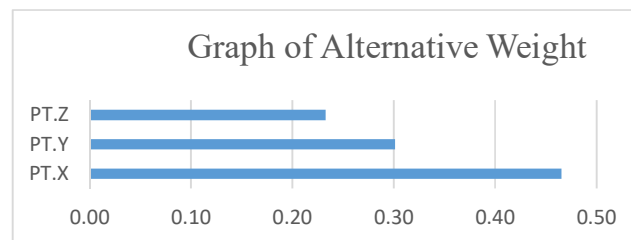


Figure 5.1 Alternative Weight