

ABSTRACT

Lean implementation has commonly used in various companies, but the company does not have a measurement tool to describe the achievement of lean implementation, so that the improvements made do not focus on critical factors that affect overall production. From this problem, how to determine the criteria for measuring the performance of lean implementation and how to measure the performance of lean implementation with using the determined fuzzy logic criteria. In this measurement, lean criteria are used only qualitatively and are performed on the dimensions of quality, customer, process, human resources, shipping & suppliers. This measurement is only in the scope of the flat bar production with 6 respondents consisting of the quality, customer, production, supplier, human resources and production department heads.

For decision making in solving problems, fuzzy logic methods are needed, which are able to represent the obscurity or ambiguity to the modelled concept.

From the measurement results, the leanness value obtained from centroid defuzzification. Then plot the values into the lean radar chart, so that the quality dimension is known to have the largest leanness value, which is 1.46 and the shipping dimension & supplier have the lowest leanness value, which is 0.76. This shows that companies are more focused on lean quality than lean shipping & supplier. The low value of leanness also shows that these dimensions need to be fixed to improve production performance.

Leanness index results are used to calculate fuzzy leanness index (FLI) to determine the fuzzy index index position of the linguistic level. The results of FLI (4.42, 5.81, 7.86) are used to determine the proximity of the FLI and the fuzzy number of the leanness level with euclidean distance. The results obtained, the distance of the FLI approaching very lean as far as 1.57.

Keywords: *Leanness, Qualitative, Fuzzy Logic, Fuzzy Leanness Index.*