

ABSTRACT

PT. Sipatex is a company engaged in the production of textiles. The company is able to meet the market demand for components are supported by the company, one of which is the finishing part. In the finishing section there are 5 units finishing machine that serves to uniform texture and leng fabric, soft and rough cloth set, and set the thickness of the fabric. Due to the finishing machine is a key staple of the production process and are required to always be in good condition it is necessary age calculation engine optimization and optimal number of repair channels using the life cycle cost (LCC) for a decision.

Based on the data TTF, TTR in 2012, it can be done plotting the distribution and the distribution that represents determination. Further data processing Acquisition Cost and Sustaining Cost to get the smallest life cycle cost. Annual sustaining cost consists of operating cost, maintenance cost, and shortage cost. Acquisition costs consist of purchasing cost and population cost.

Based on the calculation of the life cycle cost for the smallest LCC total is Rp 20,334,311,001.36. At this produces the smallest total LCC optimization as the number of repair channels 1 and 5 year old machine to machine number 5 units. With age calculations, can be ascertained after 5 years of engine performance will decline.

In planning for spare parts this company is still using the history data, which is based on the purchase of the previous period. In this study, spares planning will be based approach to poisson process. Spare parts are distinguished based Repairable spare and non-Repairable spare. Spare parts needs analysis focused on the sub-system critical. Then do the calculation for spares requirements planning in 1 period based on Assurance Level.

Keywords: *Maintenance Management, Optimization, Life Cycle Cost, Spare part, Poisson process, Assurance Level.*