

## **ABSTRACT**

*Production work with the help of machines has been carried out since the industrial revolution 1.0. The machine needs maintenance in order to run, but the maintenance process does not always run smoothly. There is still a practice of machine maintenance by waiting for machine damage to occur without any prior prevention process. So that it requires a lot of expenses.*

*One theory that can be used is Life-Cycle Cost (LCC). LCC is a calculation that aims to predict the long-term costs of using a machine over its lifetime. Costs such as raw materials, machine purchases, labor, electricity and costs to support operational capabilities are inputs to estimate long-term costs so that budget planning can be determined in outline. LCC can be used to determine the replacement or renewal of machines that are more profitable than maintaining existing machines. The machine used as a reference is the Goss Community printing machine at the Serambi Indonesia company.*

*A web-based calculator application that calculates using the LCC method can be used to help the financial repair and planning process. The application will be developed using the waterfall method and utilizing the Laravel framework. System planning uses the Unified Modeling Language (UML) model. The application will be tested using the Black Box Testing method.*

*Based on testing of the machine, the new machine with an LCC value of Rp. 570,000,000 is greater than the LCC value of the existing machine which is Rp. 431,500,000. So it is more profitable for Serambi Indonesia to maintain the current machine.*

*Keywords: Life-Cycle Cost, maintenance, waterfall, black box testing.*