

## **ABSTRACT**

### **USING OF LEAN MANUFACTURING CONCEPT FOR REDUCING CONVERTING DIVISION WASTE IN PRODUCTION OF CORRUGATED *BOX* CARDBOARD AT PT.PURINUSA EKA PERSADA BANDUNG**

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PT. Purinusa Eka Persada (PT.PEP) Bandung is the company that produce corrugated cardboard *box* with a domestic and foreign market. This company is using make to order system for their production floor. One of the products which has high levels of demand and re-ordering is CB Richeese Nabati cardboard *box*. The demand for these products reached 210,000 sheets per day. However, this company only able to produce 168,000 sheets per day. The object being observed is converting division and waste that occurs in converting division with flexo machine as the main engine is 81.01% and lead time is 3771.6 seconds. In order to do it, the Value Stream Mapping is established to describe the flow of value that has been happened. And doing lean manufacturing approach in the restoration effort to eliminate waste.

The research phase begin with the stage of current state map making, this activity is done to identify the waste that have been occurred. From this early stage is known through the value stream mapping that the waste which had been occurred in converting division is 81.01% with a lead time of 3771.6 seconds. Then process activity mapping is done to find out detailed mapping and generate the greatest activity their are delay 46%, operation 32%, transportation 20%, and inspection activities 2%. The biggest cause of waste is an waiting activity between operators and WIP time between work elements that increase lead time. Future state design is performed to find the solutions of waste problems. The solution that has been obtained is making a continuous flow and applying the full work methods which resulted in reduction the amount of operator. With the proposed solution and working system is obtained shorter lead time is 3189.6 seconds with decreased levels of waste to be 71.09% of the whole process. From this future state is obtained the percentages of operation 50%, delay 36%, transport 9%, and inspection 3%.. So with the implementation of proposed working systems the company can complete the request of cardboard *box* every day.

**Keywords:** Corrugated Carton *Box*, Converting, Flexo Machine, Lean Manufacturing, Value Stream Mapping, Process Activity Mapping

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