

ABSTRACT

Micro, Small, and Medium Enterprises (MSMEs) are considered the main instrument for a country's economic growth, including Indonesia. With brilliant performance and achievements, Indonesian MSMEs have become critical engines that can significantly contribute to the national GDP. However, the density of MSMEs in Indonesia has a crucial negative impact, which leads to increased industrial waste. After further investigation, most of the industrial waste generated by MSMEs comes from West Java Province, especially textile MSMEs. PT Elco Indonesia Sejahtera is one of the leather textiles MSME actors, which was founded in 1992 in the Garut area. To produce high-quality leather textile materials, PT Elco Indonesia Sejahtera uses chromium sulfate for the leather tanning process, which can potentially create hazardous industrial waste. In addition, there are also some solid wastes such as shaving waste, trimming waste, fur waste, and fat waste from the leather tanning process.

Currently, the entire PT Elco Indonesia Sejahtera manufacturing process still does not use a system to monitor ongoing manufacturing processes and further processing related to the waste produced. In addition, the interactions between the manufacturing and other teams are still conventional, hindering the effectiveness and efficiency of the manufacturing business processes that run at PT Elco Indonesia Sejahtera. To overcome these problems, it is necessary to develop an Enterprise Resource Planning (ERP) system and monitoring dashboard that adopts the circular economy concept using the manufacturing module of Odoo software with the quickstart method. This development can assist the manufacturing team in applying the circular economy concept to all manufacturing processes to minimize waste and increase the company's economic value. The system that has been developed will be evaluated using unit testing, integration testing, and user acceptance testing with the black-box testing method. The results of this research are the development of an ERP manufacturing module system and monitoring dashboard that has implemented the circular economy concept to support the needs and design of PT Elco Indonesia Sejahtera's manufacturing business processes to minimize waste and increase the company's economic value.

Keywords — ERP, Dashboard monitoring, Manufacturing, Circular Economy, Odoo, Quickstart, MSME