

ABSTRACT

PT XYZ is a manufacturing company specializing in the production of aluminum products. The company produces several types of aluminum products, including Aluminum Ingot, Aluminum Billet, and Aluminum Alloy. In its production processes, both main raw materials and supporting raw materials must always be available to ensure smooth operations. The supporting raw material is only used in diversified products such as Aluminum Alloy and Aluminum Billet

PT XYZ faces challenges in managing the inventory of materials, specifically experiencing shortages. These shortages occur due to inaccurate material recording, which is currently performed manually. As a result, inventory data is not up-to-date, leading to production delays and prolonged product delivery times to customers.

This research aims to design a proposed business process using the Business Process Improvement (BPI) method and to develop an information system using the Waterfall method with a dashboard-based interface. The proposed business process and information system are expected to help the company manage inventory by improving the accuracy of material inflow and outflow records, minimizing the risk of material shortages, and supporting operational efficiency. By implementing the proposed business process, the company can introduce activities that reduce the occurrence of material shortages that cause production delays.

The information system also assists users in recording material usage in real time, accelerating the production process, and ensuring stock availability according to requirements. Thus, the implementation of this system not only increases operational efficiency but also supports business sustainability by enhancing the quality of services provided to customers.

Key words : *Production Process, Inventory Management, Information System, Dashboard, Waterfall, Business Process Improvement*