

**HALAMAN PENGESAHAN**

**RANCANG BANGUN SISTEM PENYIMPANAN KULIT ARTIKEL BAGIAN ATAS SEPATU DENGAN FITUR PENYESUAIAN LINGKUNGAN SECARA OTOMATIS DI PT. SEJIN FASHION INDONESIA PATI, JAWA TENGAH**

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## ABSTRACT

Manufacturing industries, including PT. Sejin Fashion Indonesia as an OEM footwear manufacturer, face challenges in efficiency and innovation in managing raw materials, particularly in the storage of environmentally sensitive leather. This research aims to design an automated environmental adjustment system for leather storage. Through experimental and analytical approaches, the study identifies inefficiencies in leather storage and evaluates solutions using digital technology and sensors. The study focuses on developing a storage system for suede leather, testing 130 sheets of quality 1-7 suede within a specially designed leather inventory system. Data collection methods include observation, interviews, documentation, and relevant literature. Research findings indicate suboptimal leather storage conditions, with temperature and humidity fluctuations causing up to 8% damage. The designed system, incorporating smart humidifiers, fan blowers, and IR sensors, successfully maintains optimal storage conditions, reducing damage to 0%. Despite an initial negative ROI of -2.1%, long-term benefits are expected to yield a positive ROI through improved production efficiency and reduced leather damage. This research underscores the importance of efficient storage systems to enhance leather quality and competitiveness in the fashion industry.

**Keywords:** Manufacturing industry, leather storage, system efficiency, digital technology, ROI (Return Of Investment)