

ABSTRAK

Penelitian ini dilatarbelakangi oleh sering terjadinya kerusakan pada mesin packaging di PT Dai Nippon Printing Indonesia, khususnya pada komponen unwinder dan air shaft yang menyebabkan downtime dan menurunkan produktivitas. Masalah utama yang diteliti adalah faktor-faktor yang mempengaruhi efektivitas preventive maintenance, dampaknya terhadap kinerja mesin, serta kendala yang dihadapi perusahaan dalam penerapannya.

Metode penelitian yang digunakan adalah deskriptif kuantitatif dan kualitatif dengan pendekatan **Overall Equipment Effectiveness (OEE)**. Data diperoleh melalui observasi langsung, wawancara dengan teknisi dan operator, serta studi dokumentasi downtime mesin. Analisis OEE dilakukan dengan menghitung nilai availability, performance, dan quality mesin slitting.

Tujuan penelitian ini adalah untuk menganalisis penerapan preventive maintenance pada mesin packaging, menilai dampaknya terhadap efektivitas kinerja mesin, serta mengidentifikasi kendala dan tantangan yang dihadapi dalam implementasi.

Hasil penelitian menunjukkan nilai OEE sebesar **75,00%**, yang masih berada di bawah standar world class OEE (85%). Kerusakan paling sering terjadi pada bagian **unwinder** (15 jam downtime) dan **air shaft** akibat keausan, kurangnya pengecekan rutin, dan keterbatasan pemeliharaan harian. Penerapan preventive maintenance secara terstruktur terbukti dapat mengurangi downtime, meningkatkan efektivitas mesin, serta menjaga kualitas produksi. Namun, perusahaan masih menghadapi kendala berupa keterbatasan waktu produksi, ketersediaan sparepart, dan disiplin teknisi dalam pelaksanaan jadwal perawatan.

Dengan demikian, preventive maintenance yang konsisten dan berbasis data OEE sangat penting untuk meningkatkan keandalan mesin packaging dan mendukung pencapaian target produksi perusahaan.

Kata kunci: *Preventive Maintenance, Overall Equipment Effectiveness (OEE), Mesin Packaging, Downtime, Produktivitas.*



ABSTRACT

This research was motivated by the frequent failures of packaging machines at PT Dai Nippon Printing Indonesia, particularly the unwinder and air shaft components, which cause downtime and reduce productivity. The main issues examined were the factors influencing the effectiveness of preventive maintenance, its impact on machine performance, and the challenges the company faced in implementing it.

The research method used was descriptive quantitative and qualitative, using the Overall Equipment Effectiveness (OEE) approach. Data were obtained through direct observation, interviews with technicians and operators, and a study of machine downtime documentation. OEE analysis was conducted by calculating the availability, performance, and quality of the slitting machines.

The purpose of this study was to analyze the implementation of preventive maintenance on packaging machines, assess its impact on machine performance effectiveness, and identify obstacles and challenges faced in implementation.

The results showed an OEE value of 75.00%, which is still below the world-class OEE standard (85%). The most frequent failures occurred in the unwinder (15 hours of downtime) and air shaft due to wear and tear, lack of routine inspections, and limited daily maintenance. The implementation of structured preventive maintenance has been proven to reduce downtime, increase machine effectiveness, and maintain production quality. However, companies still face challenges such as limited production time, spare part availability, and technician discipline in implementing maintenance schedules.

Therefore, consistent preventive maintenance based on OEE data is crucial for improving packaging machine reliability and supporting the achievement of

company production targets.

Keywords: *Preventive Maintenance, Overall Equipment Effectiveness (OEE), Machine*

