

ABSTRAK

PT Galenium Pharmasia Laboratories merupakan perusahaan yang bergerak dalam bidang industri farmasi. Kendala yang dihadapi perusahaan yaitu kinerja mesin yang tidak optimal lagi dikarenakan frekuensi kerusakan mesin yang tinggi sehingga menyebabkan *downtime* yang akan mengganggu produktivitas kerja pada mesin dalam melakukan proses produksi. Berdasarkan data yang dimiliki oleh perusahaan, kerusakan tertinggi terdapat pada mesin *automatic cartonng shieng shung*. Tujuan penelitian ini meningkatkan efektivitas mesin dan mengurangi *downtime* mesin.

Mesin dapat dianggap berjalan dengan optimal apabila nilai efektivitas kinerja mesin itu tinggi salah satu pengukuran *key performance indicator* (KPI) yaitu metode *overall resource effectiveness* (ORE). *Failure Mode and Effect Analysis* (FMEA) adalah suatu alat yang secara sistematis mengidentifikasi akibat atau konsekuensi dari kegagalan sistem atau proses, serta mengurangi atau mengeliminasi peluang terjadinya kegagalan.

Hasil penelitian menunjukkan bahwa rata-rata nilai ORE sebesar 76,31% dan dapat dikatakan mesin *automatic cartonng* masih belum memenuhi nilai standar ORE *world class* yang bernilai 85%. Penyebab kerugian terbesar ataupun penurunan efektivitas mesin *automatic cartonng* ada di faktor *changeover efficiency*. *Failure Mode and Effect Analysis* (FMEA) didapatkan nilai *Risk Priority Number* (RPN) sebesar 448 dengan penyebab kurang pahamnya operator terhadap kerusakan mesin dan operator melapor setelah mesin rusak. Usulan perbaikan yaitu melakukan pemeriksaan rutin terhadap mesin sebelum mesin beroperasi. Setelah diterapkan usulan perbaikan didapatkan nilai ORE sebesar 86,31%. *Downtime* keseluruhan sebesar 2156,8 menit dan setelah perbaikan menjadi 1119,5 menit.

Kata Kunci: *Overall Resource Effectiveness (ORE); Downtime; Failure Mode Effect Analysis (FMEA)*

Increasing The Effectiveness Of Automatic Cartoning Machine Using The Overall Resource Effectiveness And Failure Mode And Effect Analysis Method

ABSTRACT

PT Galenium Pharmasia Laboratories is a company engaged in the pharmaceutical industry. The obstacle faced by the company is that the performance of the machine is not optimal anymore due to the high frequency of machine breakdowns which causes downtime which will interfere with work productivity on the machine in carrying out the production process. Based on the data owned by the company, the highest damage was found in the shieng shung automatic cartoning machine. The purpose of this research is to increase machine effectiveness and reduce machine downtime.

The machine can be considered running optimally if the value of the effectiveness of the machine's performance is high, one of the key performance indicator (KPI) measurements, namely the overall resource effectiveness (ORE) method. Failure Mode and Effect Analysis (FMEA) is a tool that systematically identifies the consequences or consequences of system or process failures, as well as reduces or eliminates the opportunities for failures to occur.

The results of the study show that the average ORE value is 76.31% and it can be said that the automatic cartoning machine still does not meet the world class ORE standard value of 85%. The cause of the biggest loss or decrease in the effectiveness of the automatic cartoning machine is the changeover efficiency factor. Failure Mode and Effect Analysis (FMEA) obtained a Risk Priority Number (RPN) value of 448 with the cause being the operator's lack of understanding of machine damage and the operator reporting after the machine was damaged. Proposed improvements are to carry out routine checks on the machine before the machine operates. After implementing the proposed improvements, the ORE value was 86.31%. Overall downtime was 2156.8 minutes and after repair it became 1119.5 minutes.

Keywords: *Overall Resource Effectiveness (ORE); Downtime; Failure Mode Effect Analysis (FMEA)*