

ABSTRAK

Persaingan yang semakin ketat dalam industri manufaktur menuntut perusahaan untuk meningkatkan efektivitas dan efisiensi proses produksi. PT Autokorindo Pratama menghadapi permasalahan berupa rendahnya nilai *Overall Equipment Effectiveness* (OEE) pada mesin *Vertical Lathe* di Line DISC, yang disebabkan oleh tingginya downtime, serta kinerja mesin yang belum optimal. Penelitian ini bertujuan untuk mengidentifikasi akar penyebab permasalahan dan merancang strategi peningkatan produktivitas menggunakan pendekatan *Failure Mode and Effect Analysis* (FMEA) dan *Quality Control Circle* (QCC). Metode FMEA digunakan untuk menganalisis potensi kegagalan pada proses *Vertical Lathe* dan menghitung nilai *Risk Priority Number* (RPN) berdasarkan *severity*, *occurrence*, dan *detection*. Sementara itu, metode QCC diterapkan sebagai pendekatan perbaikan berkelanjutan melalui kolaborasi tim lintas fungsi yang menganalisis data menggunakan *tools* seperti fishbone diagram dan histogram. Hasil penelitian menunjukkan bahwa integrasi FMEA dan QCC efektif dalam menurunkan nilai RPN pada penyebab dominan downtime serta meningkatkan nilai OEE dari sebelumnya 78,16% menjadi mendekati standar ideal sebesar 85%. Penelitian ini menyimpulkan bahwa strategi berbasis analisis risiko dan keterlibatan tim mampu meningkatkan kinerja mesin secara signifikan dan mendukung daya saing perusahaan.

Kata kunci: *Overall Equipment Effectiveness* (OEE), *Vertical Lathe*, *Failure Mode and Effect Analysis* (FMEA), *Quality Control Circle* (QCC), Produktivitas, Downtime.

ABSTRACT

Increasingly tight competition in the manufacturing industry requires companies to increase the effectiveness and efficiency of production processes. PT Autokorindo Pratama is facing problems in the form of low Overall Equipment Effectiveness (OEE) values on Vertical Lathe machines on the DISC Line, which are caused by high downtime and suboptimal machine Performance . This research aims to identify the root cause of the problem and design a strategy to increase productivity using the Failure Mode and Effect Analysis (FMEA) and Quality Control Circle (QCC) approaches. The FMEA method is used to analyze potential failures in the disc turning process and calculate the Risk Priority Number (RPN) value based on severity, occurrence and detection. Meanwhile, the QCC method is applied as a continuous improvement approach through cross-functional team collaboration that analyzes data using tools such as fishbone diagrams and histograms. The research results show that the integration of FMEA and QCC is effective in reducing the RPN value for the dominant cause of downtime and increasing the OEE value from the previous 78.16% to close to the ideal standard of 85%. This research concludes that strategies based on risk analysis and team involvement are able to significantly improve machine Performance and support company competitiveness.

Keywords: Overall Equipment Effectiveness (OEE), Vertical Lathe, Failure Mode and Effect Analysis (FMEA), Quality Control Circle (QCC), Productivity, Downtime.