Production analysis and optimization at Strähl Décolletage AG

In the manufacturing company Strähl Décolletage AG which lacks standardized processes and KPI tracking, there is significant scope for adopting tools that boost continuous improvement and morale. By leveraging industry literature, employee interviews, and best practices from similar companies, traceability and efficiency was enhanced.

Introduction

Strähl Décolletage AG is a manufacturing company engaged with activities including production, logistics, quality assurance, and administration. At the heart of its operations, the company specializes in using CNC machines to produce parts for a diverse range of customers. They are capable of handling orders of any size, ranging from single pieces to large-scale productions of up to one million units. The project addresses issues in quality management and continuous improvement over time.

Research Design

The project began by developing a comprehensive process overview using Business Process Model and Notation, which established a solid foundation for informed decision-making and operational improvement. To gain strategic insights, I conducted semi-structured interviews with CNC mechanics, utilizing the qualitative content analysis to extract crucial perspectives and priorities. The next step involved pinpointing essential Key Performance Indicators (KPIs) to guide the implementation of shop floor meetings. By integrating findings from the interviews and relevant literature, we identified three key KPIs. Concurrently, we delved into motivational factors to better understand and boost morale within the manufacturing setting. Further stages of the project included executing a Process Failure Mode and Effect Analysis (FMEA) with collaborative efforts from representatives across various departments. This analysis identified potential weaknesses in the standard order process and recommended strategies to alleviate risks and eliminate bottlenecks. Documented as a dynamic resource, the FMEA serves as a tool for ongoing enhancement and risk management.

Results

The key metrics of scrap parts percentage, on-time delivery of goods, and machine uptime were identified through statistical analysis as critical for measuring both quality and efficiency, aligning with our strategy for operational improvement. I also pinpointed factors that affect employee morale, leading to the forthcoming launch of the „smart cost idea" initiative. This program encourages employees to actively engage in ongoing process enhancements, acknowledging their vital role in the company's success. As a reward, they receive a 2% bonus from the annual cost savings generated by their improvements.

In the FMEA analysis, I focused on the three processes most susceptible to failure, successfully lowering their Risk Priority Numbers (RPN) through targeted actions established by our core team. Moving forward, we will continually update this document to ensure a thorough examination of our entire process, from receiving orders to dispatching them to customers, thereby fostering sustained improvement and efficiency.

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Future steps

The three key performance indicators (KPIs) identified from the interviews will be displayed on a dashboard for use in regular shop floor meetings with the CNC mechanics. By reviewing these critical production metrics, the team can pinpoint specific areas for process enhancement, thereby boosting overall company efficiency. Additionally, the dashboard will highlight the processes with the three highest Risk Priority Numbers (RPNs), facilitating team discussions on potential improvements.