Is the focus on a single performance measure enough?

Lindab, a production company in the construction sector, has traditionally focused on producing and selling their products. However, in recent years the focus has shifted to a more holistic perspective towards supply chain management. As part of this strategic shift, efforts were undertaken to manage and reduce costs across the supply chain. Here, the reduction of stock on hand while maintaining service to customers was identified as a crucial aspect. To further support these efforts, new inventory and production systems were introduced. These changes are supported by a new IT system that allows operators at some of Lindab’s production lines to conduct their own production planning in reference to predetermined parameters. However, Lindab recognized that production operators also base their decision making on additional parameters, which cannot be captured in their systems. Furthermore, the production lines utilizing this new production and IT system seem to outperform other production lines in lowering stock levels.

Therefore, Lindab was interested in an analysis of two production lines to understand the parameters influencing the inventory management and production planning decisions. One of the studied production lines utilizes the new system for production planning while the other still relies on a planning department. Furthermore, a model was to be outlined to allow operators to further structure their approach to production planning so that more consistent and better results can be achieved.

An initial investigation shows that lead times, reorder points, order quantities and setup times are key parameters affecting the operator’s decisions. Therefore, these have been analyzed further to find out how they influence the production line performance. Through the analysis, it could be shown that several of the above-mentioned parameters are not aligned across different departments within Lindab and lead to different perceptions of performance. Analyzing the approaches to inventory management further revealed that both production lines deviate from the predetermined parameters. Resulting from this are significantly higher average stock levels than required or more time spend setting up production for another product. Regarding the production scheduling and sequencing, both production lines are performing quite well under given circumstances so that the setup times within a schedule are almost as low as possible. However, the analysis also shows that the narrow focus on reducing stock levels does not necessarily lead to the best solution for Lindab.

Based on these insights, a model was created to structure the operator’s approach to production planning and align it to the approach to inventory management across Lindab’s IT systems. To achieve this, the model focuses on two performance measures, average stock levels and total setup time, so that better overall results are obtainable. The process behind the model relies on four subsequent lists that narrow the focus gradually until a final production sequence is obtained. Through this process several steps are based on calculations and models while some aspects are left to the operator to decide. Here, production operators are given the possibility to influence the planning and improve upon theoretical model through their experience and knowledge.