

ADVANCED PLANNING AND SCHEDULING TECHNOLOGY PAPER



Improving Efficiency with Advanced Production Scheduling Software

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Constant Pressure to Do More With Less

As a manager in a manufacturing, you are under constant pressure to do more with less and to wring greater cost savings out of your operation. When business volumes drop, top management cuts your capacity with a cleaver. When business returns, rarely are you allowed to add capacity at the same rate it is cut. How can you win?

Advanced Production Scheduling software (APS) can help. APS allows you to generate schedules short, medium and long term. It gives visibility into when work will finish considering the limited capacity (machines, people, tooling, material, etc.) of your operation. You can use the software's what-if feature to evaluate scenarios that improve both delivery and efficiency, and that help you work around problems.

Specifically, improved production scheduling can help you wring more cost savings out of your operation by:

1. Improving trade-offs between set up efficiency and delivery
2. Minimizing overtime
3. Better controlling the shop floor
4. Efficiently working around problems
5. Cutting expediting
6. Reducing schedule generation times

Improving Trade-Offs Between Set Up Efficiency and Delivery

You can be responsive to your customers by continually breaking down set ups, but efficiency suffers. Stay in a set up as long as you can and your efficiency improves, but you sacrifice customer service. Advanced production scheduling software can help you optimize set ups in a way that both minimizes cost and maximizes delivery.

Minimizing Overtime

You know you are behind and delivery is suffering. Under pressure to "catch up" quickly, you extend shifts and work Saturday. Maybe you even schedule

work on Sunday. How do you know you are using expensive time and a half and double time hours in the best possible manner, and not just building costly inventory?

Advanced production scheduling software identifies the current and future bottlenecks in your operation that will contribute to late work. Rather than reactively scheduling a lot of overtime "just in case", APS pinpoints how to apply overtime in a cost effective manner where it is needed the most.

Better Controlling the Shop Floor

Without a schedule that your operation buys into, the shop floor can quickly get out of control. Shop floor staff tend to work on jobs that run without problems rather than what is needed, and jobs will occasionally "get lost". Efficiency and delivery can suffer. Advanced production scheduling software improves shop floor control by explicitly considering capacity and generating good schedules that are easily understood, and that all staff can believe in and follow.

Efficiently Working around Problems

While you work like crazy to eliminate variability, problems such customer changes, vendor problems, quality holds, broken equipment, and sick people will always occur. Production scheduling software gives you visibility into how these problems impact your operation. APS software also gives you the ability to generate and chose from different scenarios that get you out of trouble with the least possible cost.

Cutting Expediting

One solution to delivery problems is to devote staff to expediting hot orders. Expediting is a non-productive activity that adds nothing but cost. You can eliminate expediting with a well-controlled shop floor driven by a detailed production schedule that all staff follow. Also, the visibility and problem solving capability afforded by advanced production scheduling can

greatly reduce the instances when expediting is required.

Reducing Schedule Generation Times

Advanced production scheduling software can quickly generate base schedules and what-if scenarios that explicitly consider capacity and accurately predict order completions. In comparison, other scheduling methods do not consider capacity nor predict finish dates, and are manual and time consuming. Using APS software can free planners, schedulers, and managers from the drudgery of schedule generation, and allow them to use freed up time on higher value add activities.

About the Author

Charles J. Murgiano is a principal with Waterloo Manufacturing Software. He has had more than ten years experience helping clients apply manufacturing decision support software. Mr. Murgiano received his MBA, Masters in Engineering in Operations Research and BS in Mechanical Engineering from Cornell University. Mr. Murgiano is active in the American Production and Inventory Control Society and is certified in production and inventory management by this organization.

More Information

This Paper is being provided with compliments from Waterloo Manufacturing Software. For more information about Waterloo Manufacturing Software's advanced finite capacity planning and scheduling system, TACTIC, Mr. Murgiano's other papers, contact:

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