



WHEEL OF FORTUNE

A LARGE NUTRACEUTICAL COMPANY NEEDING TO IMPROVE ASSET UTILIZATION ASKS ZINATA TO "CONNECT THE DOTS" BETWEEN SCHEDULING AND PRODUCTION.

IN A NUTSHELL

Industry

Nutraceutical Manufacturing

Challenges

- Low OEE and unproductive assets
- Inefficient product changeovers
- Lack of optimized scheduling methodology
- Excessive changes and time-consuming adjustments
- Disconnect between scheduling and change requirements

Solution

Implement "Product Wheel" scheduling, optimize product frequency and sequencing to minimize changeovers, allocate bottle sizes to reduce rail changes, increase run size for low-demand products, develop excel-based tools for scheduling, provide training and support, involve cross-functional teams, improve management parameters, and continuously enhance the product wheel tools with ERP integration.

Outcome

- Ability to meet demand with two fewer lines
- Improved systems view of product line-up
- Better supply chain and labor crew planning
- Predictability of future product needs

A large nutraceutical company sought to improve asset utilization and increase line throughput. Zinata implemented "Product Wheel" scheduling to optimize product frequency, minimize changeovers, and allocate bottle sizes efficiently. The outcome: 12-point OEE increase, 34% higher throughput, meeting demand with fewer lines, and \$1.5 million annual labor savings. This approach improved the systems view of the product line-up and enhanced supply chain planning.

Zinata developed excel-based tools, provided training, and fostered cross-functional teamwork. They continuously improved the tools, integrating ERP system for future order planning. Standardized wheel patterns streamlined operations and improved efficiency across the product value chain, enabling better supply chain and labor crew planning.

12 Points
increase
in OEE

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SITUATION

The client, a large nutraceutical company, was facing intense competitive cost pressures and relatively unproductive assets. Overall Equipment Effectiveness (OEE) at a key packaging plant averaged less than 40%, far below world class standards. It was imperative to significantly increase OEE and line throughput, so they could satisfy all customer orders with fewer lines operating.

DIAGNOSIS

Zinata was engaged to improve OEE and packaging line throughput. Our analysis showed one of the highest OEE losses was time lost in product changeovers. Digging deeper we learned there were up to fourteen parameters (bottle diameter, bottle height, cap type, tablet type, allergen content, etc.) that could be affected by any given changeover. The degree of change required was not being adequately considered in the scheduling process – there was a disconnect. As a result, too many changes were required and most changes required more thorough cleaning and mechanical adjustments to more parameters than a more logical schedule would need. An improved scheduling methodology and process was needed.

IMPLEMENTATION

Zinata's solution called for "[Product Wheel](#)" scheduling as a way to "connect the dots" between scheduling and manufacturing. Product wheels are a very effective way to level production and match products to lines by product family groupings. The optimum frequency and campaign length for each product is developed, then sequenced to minimize the number of changes and then reduce the parameters which must adjusted on any changeover. A great example is sorting products by bottle sizes and allocating a narrow group of sizes to each line. This alone reduced bottle rail changes (the most time consuming change) by a whopping 62%. Other optimizations significantly reduced the number of those irritating runs of low demand products (while increasing the size of each such run). In the end, total changeovers dropped by over a third and those that remained were less complex and took less time.

For wheels to be successful they have to be used every day religiously to schedule. Zinata developed product wheel tools, excel based for familiarity and simplicity, to make use of the wheels in day to day scheduling simple and direct. Training and 1-1 support (scheduling together) was provided to embed the knowledge of wheels and tools and create the habit of their use – building client capability.

Cross functional team work was critical for success – so Zinata helped bridge the internal silos. The wheels were designed by planners, schedulers, mechanics, and supervisors, led by a Zinata Product Wheel expert. Along the way Zinata was able to highlight and help improve critical management parameters like run rates and characteristic relationships. Working with the schedulers, the Zinata team designed and evolved the product wheel tools using rapid development techniques. Most recently adding the ability to pull future orders from the ERP system and present them to the planner in a format aligned with the wheel design.

OUTCOME

[Product Wheels](#) resulted in an OEE increase of 12 points, which delivered a 34% increase in throughput and resulted in the ability to meet demand using two fewer lines. The crew reduction labor savings is worth \$1.5 million annually. The new approach gives the client a systems view of their product line-up rather than their traditional piecemeal, one-at-a-time view. This is leading to further operating improvements. The benefits extend throughout the product value chain. The standardized, repetitive wheel patterns enable them to predict future tablet, bottle type, and cap type needs on a week-by-week or month-by-month basis several months into the future. This makes for better supply chain planning and labor crew planning.

Ready to optimize your operations and unlock your full potential? Book a call with Zinata today and discover how our solutions can transform your business. Visit www.Zinata.com to learn more and schedule a consultation.