Realwins by Riverlogic

THE FOOD AND BEVERAGE INDUSTRY IN THE RESILIENCY ERA

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The food and beverage industry grapples with a myriad of challenges, including evolving consumer preferences towards healthier and more sustainable options, supply chain disruptions stemming from natural disasters and pandemics, navigating complex regulatory landscapes, intense competition fueled by new entrants and market saturation, cost pressures from fluctuating commodity prices and rising expenses, and navigating the complexities of globalization including trade dynamics and geopolitical tensions. To learn how some leaders use supply chain design to build resiliency, we've highlighted some use cases used by three corporations in the food and beverage sector.

Capacity Planning and Production Allocation: Global Brand Achieves up to 4% in Cost Savings



A food and beverage division of a top-five global supply chain with hundreds of brands, thousands of SKUs worldwide, and more than €50 billion in annual revenues, use River Logic's Value Chain Optimization solution for capacity planning and production allocation.





THE CHALLENGE:

The company wanted to know the optimal production line for a given SKU per month, given the most recent demand, and consider all capacity, throughput, labor, and inventory prebuild constraints and the impact of all these on fixed and variable costs. This is an almost impossible task for a business to address without prescriptive analytics, as numerous factors are involved.

The size of the problem was equal to 1 million equations with up to 1 million variables in each equation, including detailed information for each factory, dozens of product lines, thousands of raw material items, dozens of markets involving more than 20,000 BOM combinations, fixed/variable costs, and more!

They were able to include the following variables in their decision-making process by using highly intelligent optimization modeling:

- Procurement (raw materials and packaging costs)
- Inbound logistics (costs, parameters, bills of material conversions, scrap factor)
- Manufacturing (labor costs, labor switch as fixed vs. variable, resource calendar, product routing, run rates and efficiencies, production costs, fixed and variable costs, and MOQ)
- Outbound logistics (transport networks and transport costs)
- MSOs (demand in tons by SKU, by customer, and by market)



THE OUTCOME

With these supply chain scenarios, the company realized up to 4% in cost savings in a few months.

Planning time went from months to one or two days!

LONG-RANGE AND MID-RANGE PLANNING SCENARIOS CAPTURE SIGNIFICANT BENEFITS

In addition to capacity planning and product allocation, network design optimization offers a range of analyses to support Integrated Business Planning processes that help companies address immediate dynamics and future scenarios, such as:

- Long-range planning: evaluating strategic issues, including capacity, capital expenditures, and product portfolio.
- Medium-range planning: determining inventory strategy and tactical issues, including which plants should make which products.

• Operational planning: defining production sequencing and shift scheduling. Take the example of one snack food manufacturer. By leveraging supply chain design and planning, it transferred an entire product line to another plant based on profit impact. Before the transparency River Logic's Value Chain Optimization solution provided, it was assumed that plants should make products based on the proximity of customers. **That wasn't the case!**

The medium-range and loading models have enabled the company to capture significant quantitative and qualitative benefits, resulting in an ROI of 1,000 to 2,000%.





The company also utilized a distribution model to recommend the optimal distribution strategy. This is critical because the company's product line consists of 300+ SKUs manufactured in-house and an additional 20+ private-label SKUs from other manufacturers with dependent seasonal consumption. All of these demand variations require careful planning and inventory management, causing management to ask:

- How can we maximize the profitability of the product portfolio?
- Where should we add or subtract capacity to maximize return on invested capital and profits?
- Which customers should we serve, and how?
- Which manufacturing plants should make which products?
- How can we maximize logistics efficiencies while still maximizing profits?
- Which production and shift-staffing schedule would maximize profitability?

Overall, River Logic's Value Chain Optimization solution has helped this company generate significant profit improvements.

DEMAND ALLOCATION USE CASE YIELDS ALMOST \$332,000 IN WEEKLY COST SAVINGS FOR ANOTHER SNACK FOOD MANUFACTURER.

This customer is one of North America's largest snack food/convenient food manufacturers. It has over 20 plants, around 30 platforms, over 100 processing lines, and a few hundred packaging lines. In addition, it has nearly 200 destination stations that are either retailers or distributors.

Before River Logic, however, it met less than 90% of demand for one of its most profitable products.

With the power of River Logic, the company can now allocate the right demand to the right location at fewer overall hours. They discovered reducing material and transportation costs was more profitable while increasing the number of changeovers across their nationwide Network. On initial optimization runs, they found \$332k in cost savings per week, plus several million dollars in opportunity costs due to freedup inventory.



The hard savings are unmatched by any other tool they have used, resulting in more value, such as:

- Reduced transportation costs: knowing when it makes more sense to make certain products closer to the point of sale.
- Increased throughput rates, thus leading to more demand being filled. River Logic's Value Chain Optimization solution reveals that increasing the number of changeovers across the entire Network is more profitable.
- There has been an overall reduction in labor costs via reduced production hours. The company now produces to demand rather than keeping inventory and uses insights to determine how to best utilize the free inventory.
- A decrease in overall raw material purchase and variable costs, with the ability to account for the variation of costs across different plants.

This globally-known s nack f ood manufacturer p lans o n l ooking i nto R iver Logic's Value Chain Optimization Solution for tactical sourcing (across one-week to 12-week horizons) to ensure raw materials are deployed to appropriate producers.

The company also wants to use the solution for asset strategy planning (one year out) to determine capital for new plants, equipment, and capabilities and further aid in the annual operations planning cycle.



NO MATTER THE USE CASE, INTEGRATION WITH FINANCIAL MODELING IS KEY TO UNDERSTANDING THE POTENTIAL OF YOUR NETWORK.

In every supply chain scenario, visibility into forward-looking financials impacts decision-making. These companies found an optimization and modeling solution that could represent their end-to-end (supplier-to-customer) value chain, taking data from their existing systems and enabling them to see trade-offs' financial and operational impacts across their value chain.



We are: REAL DECISIONS. OPTIMIZED. Get in Touch with Us, we are Happy to help!

