



Case Study

A Building Products Manufacturer Sees \$5 Million in Annual Value with River Logic



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Company Overview



The client is one of the largest family-owned manufacturers of wood products in the United States and has been in business for over 100 years. It is a global company with several thousand employees across over 20 countries. It manufactures several commercial, residential and industrial housing products across a handful of product families. Product managers had a monthly planning process in which they used Excel to plan products on a family level per pricing region.

Looking at only the United States, demand was fulfilled by assigning plant mills per state based on minimized freight cost. SKU production varied widely across the two dozen plants, with some producing 10 and others producing over 100 different SKUs. When a state-assigned plant was unable to meet demand, the supplemental plant was also determined based on differential freight costs. Each plant also has varying raw material costs that are also driven by seasonal factors (e.g., timber harvests).

The company was concerned with maintaining growth and market share in this volatile environment, but its production constraints and other variables were too complex to be quantified using Excel-based planning.



Challenge

Due to the nature of the housing industry — with things like housing starts, seasonal changes and other unpredictable drivers of demand — the company was unable to quantify tradeoffs around demand allocation and the net freight expenses of cross-shipping in a way that positively impacted profitability. Variable capacities and shipping rates at each of the plants prohibited the company from meeting demand in the most cost-efficient manner, since they had no view of the financial impact of various potential cross-functional tradeoffs. “80% of corporations today rely on manual spreadsheets for their analyses, and this company was no different”. Thus, like most corporations, they were unable to fully represent the complexities of their supply chain in a way that would replicate a real-world, real-time view of their business.

As a manufacturer with hundreds of SKUs across several product families, the company needed an integrated business planning tool that would empower it to view optimal production distributions based on a set of dynamic and often unpredictable input factors. This manufacturer’s manual system was used for demand planning within each product line, and it only optimized processes and actions within the unit itself.

Recognizing that the spreadsheet system created blinders to larger opportunities, the company sought a technology solution that would help it more effectively meet demand. They were also interested in learning about recommended optimal scenarios for holistic, future planning to include all plants and future acquisitions.

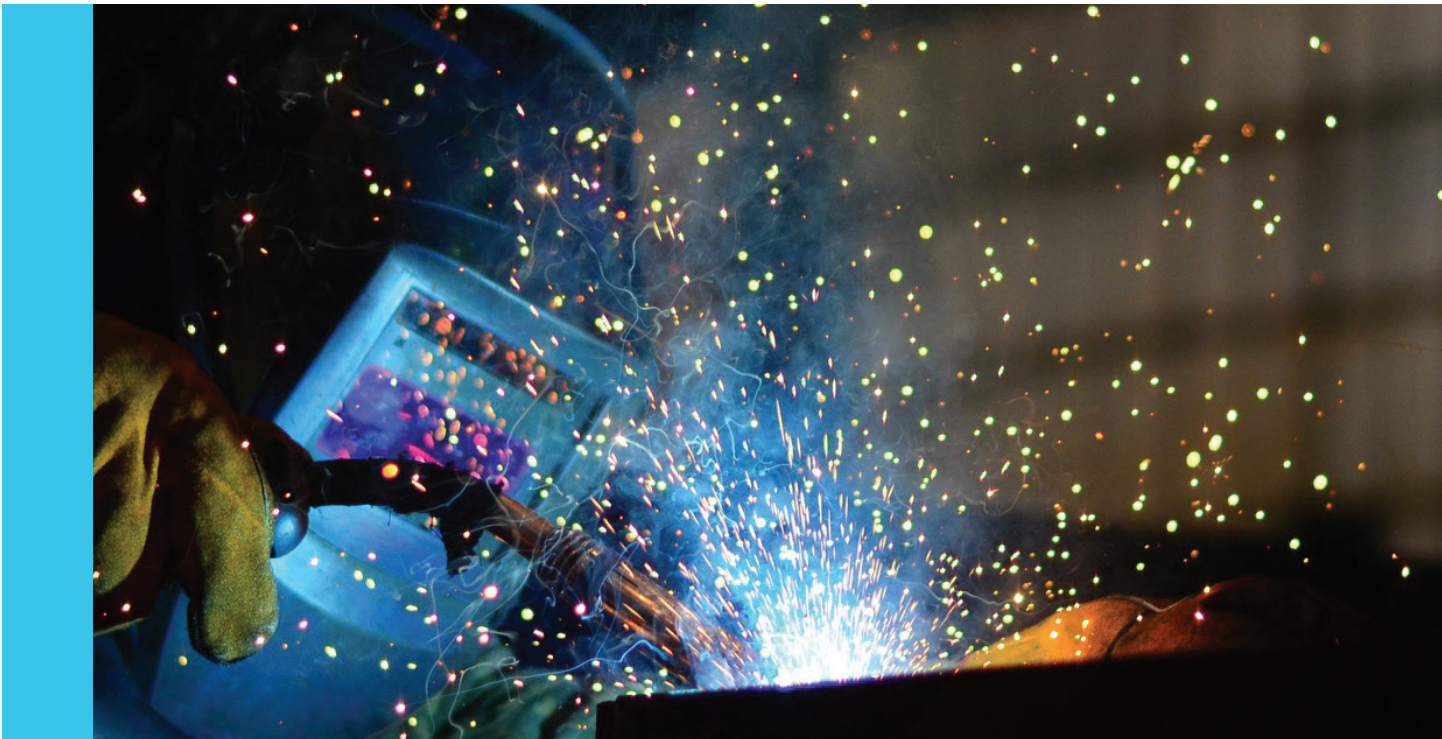
The company faced the following problems when attempting to view tradeoffs:

- The inability to view and understand constraints among all product families eliminated opportunities to improve margins and profits as a whole (instead of within just one product unit).
- The impossibility of running hundreds, if not thousands, of what-if scenarios limited insights into the best courses of action.
- The lack of a means to leverage planning removed the potential to scale across product families.



Solution Approach

After consulting with a top analyst firm, the company selected River Logic as its vendor. River Logic was the only vendor that could offer cross-functional optimization, support various planning horizons with one solution, and enable rapid scenario analysis. Within three months, a solution was delivered that supports ongoing monthly and yearly planning processes. With respect to monthly planning, the company is now able to optimize its production allocation for profit, considering variables like shift schedules, mill productions schedules, freight and production cost forecasts, and more. The company is now able to run scenarios that gauge the impact on mills and inventories if demand is higher or lower, considering the impact of every decision on forward-looking financial, commercial and operational metrics and constraints.



The company also uses River Logic to support an annual planning process that looks at profitability by mill, plant, product, customer, region and channel, to support the analysis of decisions around



Capacity expansion and improvement



CAPEX









Demand manipulation for profit optimization



Understanding NPI impacts



Executives come together on a regular basis to review the target, which is able to appropriately account for the following complexities within and across the two dozen U.S.-based manufacturing plants;

-  **Volumes**
-  **Downgrades**
-  **Cross-shipping costs**
-  **Production costs**
-  **Raw material costs**
-  **Throughput/hours**

Today, the company has full visibility into complex tradeoff decisions and is able to answer questions like;

1. How can we make sure to capture as much of the market demand as possible?
2. How do we balance the different products we are producing across plants?
3. When will we run out of capacity, and what should we do at that point?
4. What if housing starts are higher than our forecast?
5. As we get close to capacity, does our profit go down because our inventory has increased?



Impact

With River Logic's solution, the company is now able to

- ✓ Identify the best shipping destinations from each plant so that demand is met in an optimal way.
- ✓ See recommend SKU substitutions as needed. For example, substituting higher-grade products from another plant to meet demand, which prevents losing profitability overall.
- ✓ Limit delivery methods, such as customer pick-up only, for lower-margin products in order to decrease the types of product orders that deplete capacity.

The solution for meeting demand in the most profitable way possible also allows the company to view prescribed courses of action for additional plant acquisitions, including the best time to purchase and the return on investment for each acquisition.



About River Logic

River Logic has been a global innovator in prescriptive analytics (optimization) since 2000. Its platform — designed for business users — enables enterprise-wide optimization, collaborative planning, and performance management, all delivered through a revolutionary user experience. By understanding how to best utilize cross-functional resources and manage trade-offs, companies make more impactful decisions.

River Logic goes to market primarily through partner organizations like PwC, Deloitte, West Monroe Partners, and Microsoft, helping them develop high-value applications that monetize their IP. Recent clients include Unilever, BHP Billiton, Boise Cascade, McKee Foods, and the Russian Post. Typical client value-add ranges from 10% in cost reduction to profit improvements equal to 2-5% of annual sales. River Logic strives to help every customer achieve at least 10X return on investment, but it is common for customers to see even higher returns.

CONTACT US

8150 N. Central Expressway,
Suite M2025
Dallas, TX
75206

Website: riverlogic.com
Email: info@riverlogic.com
Phone: 214-393-4650
Fax: 214-393-4651
Tech Support: support@riverlogic.com

