

OPTIMIZING DECISIONS FOR REAL RESULTS AT INDUSTRIAL MATERIALS COMPANIES



RIVERLOGIC
Real decisions. Optimized.



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As an Industrial Materials manufacturer or supplier, we recognize the impact of supply chain-related disruptions on your business. Every day, operational concerns range from inbound supply challenges to rising fuel and energy costs and transportation issues. These issues can negatively impact your company's ability to fulfill ongoing contracts and profit margins.

FACTORS DRIVING DISRUPTION IN INDUSTRIAL MATERIALS

Depending on the industry, geography, and even your specific company, there are, of course, many disruptive factors that impact your ability to make decisions. Here are a few important ones:

Increase in demand

Despite warnings of a recession rising, the global construction industry is growing, with opportunities in the residential, non-residential, and infrastructure sectors.

While this is good news for business leaders, it can be a cause for concern for executives in charge of these companies' supply chains. Why? They must fulfill this growing demand by balancing hundreds of complex trade-offs. For instance, decisions around sourcing (i.e., supply domestically) a portion of their production while simultaneously increasing their storage capacity to better cope with potential future disruptions. Decisions around inventory: How much inventory is needed to meet service levels? How frequently should companies be replenishing? And, hundreds more questions.

The global construction industry is expected to reach \$10.5 trillion by 2023, growing at a Compound Annual Growth Rate (CAGR) of 4.2% between 2018 and 2023¹

(1. <https://www.ermag.com/news-analysis/contractor-news/article/21247269/building-construction-to-continue-strong-through-2023-ai-a-forecasts>)

Increase in raw materials pricing

High inflation in industrial materials is either driven by abnormal demand or a spike in energy prices. Either way, prices have been just as volatile, with the cost of inputs to construction increasing in the 15 percent range in recent months. The supply shortage for industrial products has also contributed to the price spike. But, for supply chain leaders, this is only the beginning of the problem. The incomplete view of profitability is the challenge that leads to misalignment with the CFO.

Frequency of supply chain disruptions

In the past few years, companies have been hit hard by all kinds of disorders. Now, what is new is the frequency when those are occurring:

- Labor shortages
- Shipping delays
- Transportation delays
- Restricted supplier networks
- Excess inventory

This has been pushing the boundaries of decision-making to navigate market volatility better and quickly pivot.



Now more than ever, Supply chain leaders within Industrial Materials are facing complex questions that require sophisticated decision-making capabilities, which should include three new aspects:

- 1. Create a strategic view of your business that extends to the tactical and operational planning levels.**
- 2. Align the CFO and other stakeholders' expectations around supply chain cost-saving areas and how to maintain margins.**
- 3. Work closely with industry experts to assist in making better decisions by incorporating technology into your planning process.**



1. A strategic view of the business that extends to the tactical and operational levels of planning.

When your company's executive management team makes strategic decisions, consider adopting a digital planning twin model that can also support tactical and operational decisions.

The answers collected from strategic supply chain solutions can be long-term and based on approximations, which is more challenging to operationalize.

Tactical and operational solutions enable execution and answer questions like "where, when, and how to make the best product mix given current capacity, customer mix, and product prices?"

In the age of disruption, when agility is critical, keeping those initiatives separate will lead to significantly lost value.

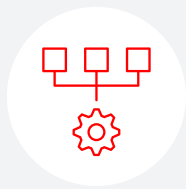
The ability to make strategic, tactical, and operational supply chain decisions in the same digital ecosystem, is a real game changer for supply chain leaders.

Connected Decisions Powered by River Logic



Executives at leading Industrial Materials' companies are answering strategic questions-Infrastructure strategy, M&A, Capacity planning-using River Logic Digital Planning Twin. This allows them to run tactical analysis-Order Allocation and Production Scheduling-with the level of detail required for execution.

Infrastructure Strategy & Capacity Planning



Industrial Materials' companies must systematically analyze how effectively the company's locations work together, how cost-effective they are, how well they support the company's strategy, and how adaptable they are to changing markets and customer requirements. Decisions made can span the entire value chain. This type of strategic analysis involves decisions for Mergers & Acquisitions, investment allocation in capacity, and manufacturing footprint:

- Should machines be upgraded or replaced?
- How many manufacturing locations and warehouses are required? Where should they be located?
- How best to adjust capacity and labor requirements seasonally?

Product / Customer Profitability:



Businesses in this industry need help with the overall planning process. As a supply chain leader, you must answer more complex questions daily. It is not optional now to understand the financial impact of serving customers, determine the contribution margin, and include financial drivers as primary variables in the supply chain analysis.

- Are we losing market share because we do not have the right products?
- What products within our portfolio contribute most to the margins?
- How can we improve Customer Lead times?
- What is the optimal cost-to-serve?
- What other opportunities do we have based on service capacity?

Order Allocation



Order Allocation decisions depend on operational and tactical analysis required for execution. You need to ensure that the mills are producing the right products daily and that you are making good decisions to optimize the capacity, distribution, and inventory to fulfill the orders. Order allocation analysis includes real inventory, transportation, and capacity constraints in the model. This context generates accurate and detailed results that you will execute. It will answer the questions, where you will make it, and how you will make it, but in the context of the larger problem you are solving.

2. Align expectations with the CFO around supply chain cost-saving areas and how to maintain margins.

The CFO needs your supply chain expertise in the current market to navigate the volatile conditions, inflationary pressures, fiscal policy changes, and recession warnings. How to do it? By helping your CFO to understand better the trade-offs of making different decisions and finding opportunities to reduce costs while communicating in the financial terms that your CFO understands:

- Reduce product portfolio complexity: Narrow focus on products that contribute most to profit. This will positively impact margins and result in lower inventory and working capital requirements.
- Prioritize in your roadmap the type of analysis that impacts most the finance function: cost reductions, margins, investment optimization, and cash flow protection. For example, the ability to predict demand more accurately and optimize inventory investments will lead to significant cost reductions. The decisions supporting the company strategy, such as M&A, infrastructure strategy, and manufacturing footprint, will break down the silos between the finance and SC department, resulting in interconnected and real decisions for the organization.
- To speak the same language as your CFO, include any policy and constraints related to the P&L, Cash Flow, and Balance Sheet in your supply chain digital scenarios.

River Logic Digital Planning Twin allows supply chain leaders to include in their scenario's key financial ratios, such as: Sales /Total Assets, Net Profit Margin, Inventory Turnover, Return on Assets, Return on Equity, Debt Ratio, Times Interest Earned, Net Working Capital / Total Assets, Current Ratio. Also, allows to limit the maximum depreciation and maximum CAPEX available.

3. Surrounding yourself with industry experts is critical.

Companies are impacted by external issues, such as developing countries building dams and power plants or global sports events - the Olympics and World Cups - that increase the demand for cement over a period of time. Economic factors such as interest rates, their impact on housing, and the need for lumber are a few examples.

Although the frequency of disruptions has increased, the industry's cyclical nature makes it necessary for you to choose the right technology that supports your decision-making process. We recommend using industry experts who understand your industry and how to apply technology to your company's strategic, tactical, and operational decisioning.

The best industry experts will have modeled hundreds of supply chains and know the path to value creation using sophisticated Industry-leading techniques.

CUSTOMER STORY

National Fly Ash Distributor went from excel and intuition-based demand fulfillment, to a Digital Planning Twin of their value chain. They leveraged AI and optimization to recommend the best path that balances costs and contract revenue-share for the highest profit.

The client experienced a higher demand for fly ash than available supply from ~60 powerplants with whom they have contracts. They knew they were losing out on profit opportunities and required a way to model the complexities of their value chain, including:

- Supplier contracts
- Various transportation methods and routes
- Production levels
- Inventory constraints
- Understand forecasted demand to meet their requirements in the most profitable way

That meant from power plant to customer terminal, they needed to understand the exact costs incurred for each step of the process.

SOLUTION

River Logic built a digital planning twin of the client's value chain looking out 12 months. The model represents unique variables like powerplant outages, revenue-share conditions per contract, length of contract, transportation constraints across rail, barge, and truck, capacity constraints, quality of product, and final sales destination.

This digital planning twin included both revenue and fixed/variable costs of each product within each step of the process and showed multiple detailed aspects contracts, including differing revenue shares based on location sold, quality, quantity, and penalties for missing minimum sales requirements.

RESULTS

Driven by River Logic's solution, the company now has monthly, highly structured S&OP meetings. The ability to model their end-to-end process through a digital planning twin, revealed numerous insights, such as:

- Realizing that the cost to do business with some plants was not profitable, so terminating contracts makes more sense than keeping them.
- Finding new shipping lanes to get product from plants to terminals in more profitable ways that they had previously not considered.
- Continuing to find profit improvement opportunities even when disruptions occur.

A yellow excavator bucket is shown in the process of dumping a load of grey gravel onto a large pile. The background shows a dirt embankment and some greenery.

THE RIVER LOGIC DIFFERENCE

At River Logic, we understand the Industrial Materials industry. Knowing the market allows us to bring value. River Logic can address these industry questions with industry answers.

The foundation of our technology is a digital planning twin of your end-to-end business as it exists today – including all financial complexities, constraints, and KPIs. Powered by optimization, you can run unlimited strategic, tactical, and operational scenarios to balance complex trade-offs and maximize the value of your decisions.

That is why we are: **REAL DECISIONS. OPTIMIZED.**

Get in touch with us, we are Happy to help!



**LET'S SET UP A 15-MINUTE
INTRODUCTORY CALL.**

