Rethinking Steel Demand Forecasting: A Handbook for Distributors

Many steel businesses rely on tried-and-true methods like excel spreadsheets, manual processes, and intuition for forecasting demand. These tools may suffice for "business as usual," but they fall short when it comes to thriving in today's dynamic, unpredictable market conditions.

To truly transform demand planning, steel leaders need to think beyond the usual and adopt innovative, data-driven approaches. This handbook shares a real-world example of how we helped a client move past outdated practices, experiment with machine learning (ML), and achieve precision that unlocked new business opportunities.

Demand Forecasting Challenges

Stockouts and Overstocks: Erratic forecasts disrupted operations and strained cash flow.

Supplier Lead Times: Ordering cycles from mills left no room for errors or delays.

Manual Processes: Intuition-based forecasting was a frustrating slow process requiring input from warehouse staff, hunting in excel files and often inconsistent.

The challenge was clear: to move beyond "acceptable" performance to a truly predictive, efficient, and scalable forecasting mechanism.

The Journey: From Tradition to Transformation

1 Challenging the Status Quo:

The first step was a mindset shift: recognizing that traditional methods, while comfortable, were insufficient for achieving long-term growth. The client leadership committed to experimenting with their own data understanding that results would improve over time.

2 Experimentation and Iteration:

- We gathered three years of ERP data, including historical sales, inventory, and supplier data.
- Several forecasting models, including time-series analysis and regression, were tested to identify the most accurate models specific to their own data.
- Predictions from top-performing models were averaged, reducing variance and increasing reliability.

3 Building a Feedback Loop:

- Forecasts were compared with actual outcomes, and the delta (error margin) was fed back into the models for optimization.
- Initially, accuracy ranged from **40%-50%,** but with continuous refinement, predictions improved to **75%-80%,** meaning forecasts were within a **20-25% margin of error.**

4 Long-Term Impact

The client's patience paid off. Over 4-5 months, the system evolved into a reliable precise forecasting framework with continuous data feedback loop ensuring pinpoint accuracy in predicting next month/ quarter sales for each size/thickness level.

The Results: Redefining Success

The client achieved significant benefits:

01 **32% Reduction in Stockouts:** Improved product availability strengthened customer satisfaction.

02 **20% Lower Inventory Costs:** Optimized stock levels freed up working capital.

03 **Confidence in Decision-Making:** Predictions within a **20-25% error margin** became a trusted basis for inventory and supplier strategies.

Client Testimonial:

> ***We realized that innovation requires patience. By stepping away from traditional methods and trusting the process, we've transformed our demand forecasting. The results speak for themselves: more accuracy, less effort, and stronger customer relationships.***

Key Lessons from Transformation

Be Willing to Experiment: True innovation starts with a willingness to try, fail, and refine.

01

Patience Brings Results: Initial models may not be perfect, but incremental improvements lead to long-term gains.

02

Think Long-Term: Embrace solutions that align with future goals, not just immediate needs.

03

Break Free from Tradition: Moving beyond manual methods unlocks new opportunities for precision and growth.

04

Embrace the Future

Our journey with Lyman Steel demonstrates that moving beyond traditional methods is not just necessary but transformative. It requires bold decisions, a commitment to experimentation, and patience to see results. For steel leaders, the choice is clear: embrace new approaches to tackle old problems and unlock unprecedented opportunities for growth.

At eMoksha, we specialize in helping businesses move past the status quo. With expertise in AI and predictive analytics, we empower steel leaders to innovate, optimize, and lead their industries into the future.
The question is no longer if innovation is right for your business—it's when you'll take the first step.

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