



Whitepaper

Pricing and Margin Optimization in Forest Products

Executive Summary

Today's historically soft forest products market has put extreme pressure on profit margins at North American forest products companies. In this environment, success depends on understanding fluctuating forest products demand and supply and then developing pricing that supports a company's profitability goals. However, the highly manual nature of current pricing approaches—in many cases, consisting of just a spreadsheet and intuition—limits forest products companies' ability to arrive at pricing decisions that maximize revenue and profitability.

Price and margin optimization software enables forest products companies to profitably manage market changes by helping them make better decisions on inventory, price, product and customer mix. SignalDemand's system combines advanced econometric models and algorithms with user expertise and insight to deliver accurate forecasts and recommendations on dimension-mix and pricing decisions. The SignalDemand solution can help forest products companies achieve a one to four percent increase in overall profit margins, resulting in a 20 percent increase in total dollar profits.

How Pricing Can Help in a Volatile Forest Products Market

Forest products companies face challenging times, with both demand-side and supply-side trends squeezing profit margins. The slowing housing market has sent forest products prices into a freefall, causing industry participants to closely monitor indicators like housing starts and interest rates to determine how much further demand will drop and when and where a market turnaround might begin. The regional nature of the housing industry only adds complexity to the problem. Meanwhile, lagging timber prices make it difficult for forest products companies to manage costs. In this rapidly changing environment, growing—or even maintaining—profit margins can seem like an insurmountable challenge.

Forest products companies have already reduced inventory, tightened logistics, streamlined operations costs, and automated operations with an eye toward boosting margins. Where can they turn next for profitability improvement? A McKinsey & Company study of Fortune 2000 corporations suggests that pricing is an area worthy of significant attention. In this study, researchers found that a one percent improvement in pricing leads to an 11 percent improvement in operating margin¹, representing a much larger gain than experienced with better management of COGS or inventory. In a volatile market where forest products prices can fluctuate by ten percent or more over a short period of time, the ability to use price as a lever for continually adjusting supply and demand becomes a valuable strategic competency. With little predicted abatement in market volatility, price and margin optimization promises to be the next frontier for forest products companies searching for ways to regain control over profitability.

Existing Approaches to Pricing Aren't Working

Despite the significant impact of pricing on profit margins, most forest products companies determine prices using a highly

manual approach consisting of spreadsheets and intuition. These spreadsheets typically incorporate some mix of historical pricing data, current inventory data, competitive information, composite industry data, and information on other relevant factors. The difficulty of integrating internal and external data sources usually causes the data stored in these spreadsheets to be fragmented and incomplete. Moreover, the spreadsheets reside on the desktops of individual users, creating a lack of consistency in pricing decisions and difficulties for salespeople trying to access up-to-date information.

A forest products company's pricing approach should be able to provide reliable answers to questions like these on a daily basis:

- Which products are we short on this week? How much of a premium can we charge over the market price?
- Which products are we long on this week? What's the most profitable way to moving the extra inventory?
- A new report on the housing market says that the average price of a new home in Los Angeles is down ten percent from last quarter. Can we predict the impact on our forest products prices in that region?
- Which products should we target to sell more or less of three, four, or five weeks out?
- How do pricing drivers for our products differ from region to region?
- Which dimension mix should our mills produce from week to week in order to obtain the highest per-sawlog margin possible?
- What is the lag between timber prices and forest products prices? When can we expect timber costs to decline in response to a down forest products market?

In most forest products companies, existing pricing methods can't supply ready answers to these types of questions and therefore can't ensure the best possible profitability choices. Pricing decisions—and by extension profitability decisions—are too important to be left to a system based on spreadsheets and intuition. Forest products companies need a solution that integrates all the relevant data from internal and external

¹ Marn, Michael V. and Robert L. Rosiello. 1992. *Managing Price, Gaining Profit*. Harvard Business Review, September-October.

sources, uses advanced optimization engines to analyze the data, and offers a central interface where stakeholders can access up-to-date forecasts and recommendations.

The SignalDemand Solution

SignalDemand price and margin optimization software employs sophisticated econometric models and optimization algorithms to provide recommendations on prices, product mix, and production decisions, ultimately enabling forest products companies to improve their profit margins. On the demand side, SignalDemand's econometric models quantitatively determine the elasticity of demand in each segment of the market with respect to price and other market drivers. On the supply side, SignalDemand's software harnesses math specifically tailored to disassembly businesses like forest products and incorporates optimization engines created by a team of world-class mathematicians and economists. Respected IT research firm, Gartner, notes that industries with reverse bills of material (BOM)—including the forest products—have particular difficulty achieving price optimization. Gartner praises the SignalDemand approach, saying that “SignalDemand has developed the science through econometric models that help producers understand how to optimize the pricing, supply utilization, and product mix for both BOM and reverse-BOM products.”²

SignalDemand's software uses inputs like historical market data, current market data, inventory positions, mill production constraints, and future indicators (such as housing and macroeconomic data) to help forest products companies determine which dimension-mix to make and what price to charge. Users actively manage forecasts and recommendations based on their own insights, experience, and strategic information. This decision support capability allows forest products companies to maintain ultimate control of pricing decisions while leading to improved confidence and customer trust.

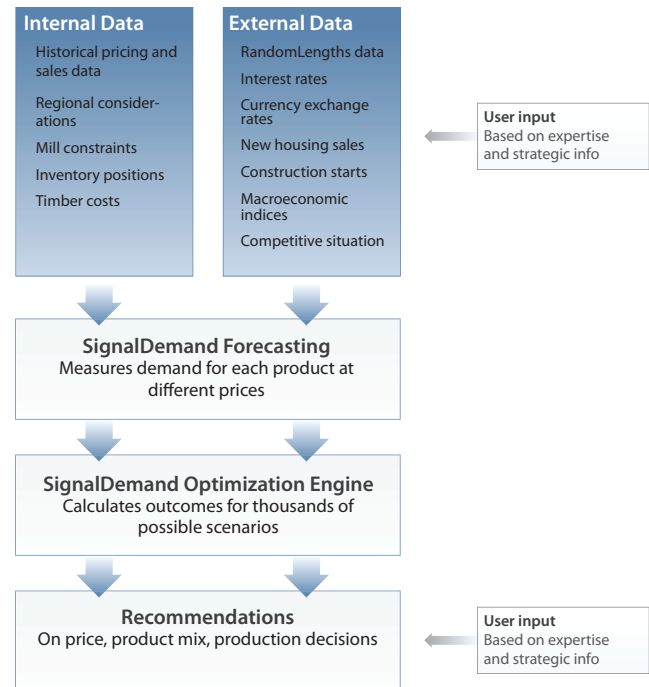


Figure 1: SignalDemand's optimization engines integrate internal data, external data, and user input to develop forecasts and recommendations for pricing, product mix, and production decisions.

Among other important benefits, SignalDemand software enables forest products companies to:

- Sell inventory at a price that maximizes margins. In situations where inventory is long, SignalDemand's optimization engines recommend the best price to charge without hurting margins. And in situations where inventory is short, the software helps determine the right price to charge so that demand does not suffer.
- Understand regional differences while maintaining pricing consistency at a national level. By isolating true regional differences, the SignalDemand software provides salespeople with local pricing recommendations designed to deliver the highest possible profit margins.
- Optimize product mix dynamically, taking into account the variability in forest products prices from week to week to gain maximum margin improvement. SignalDemand also enables forest products companies to reduce excess inventory levels by matching production with expected demand for various dimensions.

² Miklovic, Dan and Andrew Hughes. 2008. *Cool Vendors in Manufacturing, 2008*. Gartner.

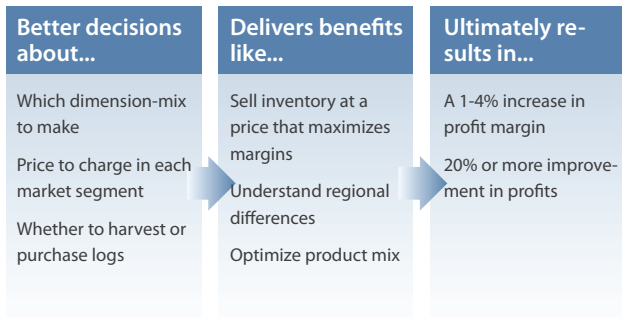


Figure 2: SignalDemand's price and margin optimization software can lead to a one to four percent improvement in overall profitability for forest products companies.

By implementing SignalDemand's price and margin optimization solution, forest products companies can attain a one to four percent improvement in profit margin—a significant impact in an industry where changing market conditions place continual pressure on profitability.

Conclusion

In the volatile environment in which forest products companies operate, price and margin optimization software can significantly improve corporate performance. SignalDemand's software combines sophisticated econometric models and optimization algorithms with user expertise and insight to develop recommendations on what to buy, what to make, and which price to charge for each product. By making better decisions on production and price, forest products companies can achieve a one to four percent improvement in profit margins, resulting in a 20 percent improvement in total dollar profits.



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About SignalDemand

SignalDemand provides manufacturers with on-demand software and services to achieve maximum profit margins in the face of volatile markets and increasingly complex pricing decisions. Using patented, comprehensive mathematical models to process thousands of variables, SignalDemand's technology allows customers to adjust supply and pricing

on a continual basis. By recommending best price, supply utilization and product mix in moments, SignalDemand enables better day-to-day decision-making. Industry leaders rely on SignalDemand for immediate and ongoing improvement of financial performance. For more information, please visit www.signaldemand.com.