

Powering the New Supply Chain: Demand Sensing for Small and Medium-Sized Businesses



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By Panagiotis Tsiakis

The demand-driven business environment spawned by market globalization has strained supply chains to the breaking point. Businesses of all sizes are under pressure to maintain precisely the right amount of inventory to meet customer expectations while simultaneously improving the pace of delivery and keeping operating costs in check. If you fail to meet your customers' expectations, your competitors will win the business.

In response to the challenge, large enterprises—including Procter & Gamble, Kellogg, Shell, and Church & Dwight—have embraced Demand Sensing, a no-touch automated supply chain solution that predicts tomorrow's demand based on today's events with a level of accuracy beyond what traditional supply chain tools and processes can achieve.

With the potential to remove up to three days of inventory, decrease forecast error by 40 percent, and reduce safety stock by a third, the advantages of Demand Sensing are obvious. Yet, most small and medium-sized businesses have sat on the sidelines of this supply chain sea change, opting instead to restructure their traditional push-pull planning strategies—a costly, complex undertaking that often fails to generate improvements.

In our experience, most businesses have been slow to consider Demand Sensing because of the misperception that it only works for major enterprises (i.e., it is costly and time consuming to implement). Yet, by understanding why and how Demand Sensing works in large organizations, small and

medium-sized businesses have the potential to achieve the same or similar benefits.

Demand Sensing Basics

The traditional Sales & Operations Planning (S&OP) process relies on algorithms that operate in a fairly static manner. Sales orders, stock movements, inventory levels, shipments, returns or other data are fed into systems for sourcing, network planning, production planning, scheduling, and logistics to create a monthly demand forecast.

A traditional S&OP monthly forecast might indicate, for example, that the demand for a product will be 1,000 units per week. As the predicted demand fluctuates, the forecast must be manually adjusted throughout the supply chain, and then usually for only a limited number of products/SKUs. Because of the lag time built into the process, the business typically runs a strong risk of having too little or too much inventory against the demand.

In contrast, Demand Sensing is an automated process. It records real-time signals from all points in the supply chain and combines them with diverse external business indicators that can include, for example, point of sale data, currency fluctuations and even weather forecasts. Then enormous data processing power and predictive analytics combine to create a kind of artificial intelligence to detect patterns in seemingly unrelated data. The result is daily forecast adjustments that drive informed production and logistics decisions.

By automatically adjusting the forecast for every product on a daily basis, Demand Sensing ensures that production is limited to required quantities. More accurate, actionable short-term demand forecasts mean less buffer inventory, higher fill rates, lower expediting costs for labor and materials, reduced production waste, and tighter vendor-partner coordination. In short, Demand Sensing lowers inventory costs, improves product availability, and increases customer satisfaction.

Demand Sensing for Smaller Organizations

It's clear that Demand Sensing works for large multi-national organizations with make-to-stock operations. But smaller organizations facing similar demand-driven supply chain challenges are just as capable of successfully optimizing forecasts.

What most large organizations have that makes them logical candidates for Demand Sensing are:

- A mature S&OP process supported by advanced demand planning capabilities
- The right system landscape, with central data management or the ability to select a solution that can work with their current technology
- An organizational structure and culture that can support change management, with leaders able to provide a compelling vision and willing to empower teams with the right solutions to institutionalize success

If smaller companies also have this business foundation, then they too can adopt Demand Sensing.

Implementation Options

Currently you have a choice of three implementation alternatives for Demand Sensing:

- **The traditional connection of applications to planning and legacy ERP tools native to the organization.** This might be most appropriate for companies who want to retain all assets within their enterprise.
- **Cloud-based and supported hosted solutions.** Start-ups with limited budgets and businesses that need to have technology flexibility in usage and upgrades can be candidates for this option.
- **Business Processes as a Service (BPaaS).** With this option you can maximize the benefits of Demand Sensing while taking steps toward a centralized demand planning function—but with reduced risk.

Deciding among these three options depends on your starting point, your company's strategic goals, and how you measure success. Using a maturity model that evaluates your systems and processes will go a long way in helping you make an accurate assessment and solid decision.

We assume that your organization has a single instance, or version, of ERP supporting the supply chain and S&OP process to minimize data errors and connections while ensuring high quality transactional data. But even if that's not the case, the BPaaS implementation option can render this potential limitation moot.

Some of the basic issues to consider as you evaluate the implementation alternatives include software and

implementation costs, requirements for outside services, internal resources, and operations disruption. There are also ongoing maintenance needs and support costs as well as the cost of integrating this new platform with existing systems.

But selecting the best implementation option is just one step. For your project to succeed you must also:

- Secure the right level of sponsorship, such as the CIO or CSO. As with any major process change, a committed, enthusiastic sponsor can help direct funds to the project and assist with the inevitable change management requirements that ensure a smooth adoption.
- Develop a comprehensive list of requirements that accurately addresses your specific business case, budget, and goals.
- Execute a pilot or proof of concept to test the solution, evaluate its appropriateness for your organization, and refine the expected benefits.

As a small or medium-sized organization, you'll probably need the help of an experienced partner to provide an accelerated approach to defining your requirements and specifying the evaluation criteria for a pilot or proof of concept. In a best-of-all-worlds scenario, defining requirements can be done within a few weeks and the pilot project would run from one to three months.

This experience gives you the information you need to ensure that you've developed a solid business case and success factors. With that achieved, you can move into implementation and deployment. Depending on the scope of the project, this could take between three months to a year. With your partner jointly leading the implementation, you'll have expertise in managing any technical, change management, and process compliance challenges.

Reducing Supply Chain Uncertainty

As increased market globalization continues to pressure supply chains, organizations must step up and embrace technologies that give them an edge over the competition. What better strategy than to have constantly updated, actionable information? Demand Sensing allows businesses to reduce inventory through greater accuracy, and be more nimble in dealing with unforeseen events, such as weather and political upheavals, that can create supply chain volatility and disruptions. Traditional forecasting models can't do that.

Demand Sensing supports the process of establishing a platform for integrated planning that enhances visibility across the supply chain while segmenting customers based on expected margin and product profitability. It changes the supply chain landscape, enhancing business decisions that improve profit margins, including facilitating the release of capital that can be invested in other areas.

Until now, Demand Sensing uptake has been primarily limited to the world's largest organizations. But the technology can also be a defining advantage for smaller businesses if they have, or can put in place, the right processes and select the appropriate implementation model.

The business that has a steady stream of actionable information is the more agile, cost efficient, and better supply chain partner than the competition. How do you enhance the bottom line? In the context of supply chain, you do it with Demand Sensing.

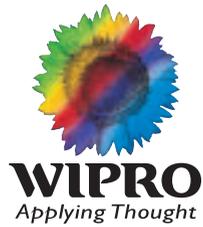
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