

Reinventing for Growth

How Innovation in Supply Chain, Product Development, and Asset Management Can Create New Opportunities for Manufacturers

Step by step, manufacturing executives are re-focusing on growing their businesses again. Key measures of manufacturing activity suggest that the long winter of recession is giving way to a resurgence in consumer confidence and spending, prompting a boost in business activity.

The Department of Commerce recently reported that the U.S economy expanded at a 5.6 % annual rate in the last three months of 2009, as consumer spending rose at a 1.6 % rate. Reports for the beginning of this year suggest this upward trend is continuing. For instance, The Conference Board's Consumer Confidence Index hit 52.5 at the end of March, up from 46.4 in February. Economists generally view a shift of five or more points in this index as a sign the economy is changing directions.

Manufacturers are getting more optimistic, too. In what was a harbinger of things to come, *Managing Automation* readers earlier this year said their confidence levels had improved markedly compared with 2009. The magazine's annual Outlook Poll revealed a sharp turnaround in sentiment – 57% said they were more confident of economic improvement as 2010 unfolds, compared with only 26% feeling that way about 2009. Most importantly, 59% felt that the economic healing would result in a boost for their own businesses this year.

Even as the recession interrupted business activity it also gave manufacturers time to take stock and think about what the business environment would look like once conditions improved. Now, as the recession ebbs, the characteristics of the “re-set economy” are beginning to come into view. The “new normal” means that such trends as business transformation, greater speed and agility, supply network management, innovation and intelligent asset management have become permanent business imperatives in today's global manufacturing environment. As a result, manufacturers of all sizes and in every sector are rethinking how they want to configure and run their businesses going forward. Many manufacturers believe they are witnessing the emergence of a new economy that requires new, streamlined business models. As manufacturing executives consider new investments in plants, equipment, and information technology, they are more inclined to move in small, measured steps, tackling smaller projects aimed at achieving specific goals that show a tangible return on investment in a reasonable timeframe.

This focus means that transforming a business will become an ongoing, evolutionary process, which, given the volatile nature of the global economy, makes more sense than embarking on a major overhaul that could take years, cost millions of dollars, and result in a business model that is obsolete before it's fully realized.

Enterprise software market leader SAP has developed a vision for a manufacturing enterprise that's poised to take full advantage of new business opportunities in a growing economy without being exposed to great financial risk in the event of another downturn. This enterprise revolves around what SAP calls the "Perfect Plant," a fully integrated, synchronized manufacturing facility. When fully implemented, the Perfect Plant provides the ideal platform for creating a manufacturing enterprise that's ready to thrive in the new economy.

In a Perfect Plant, every key process has been identified and optimized, and the systems supporting those processes are simplified, streamlined, and stabilized. More importantly—particularly for manufacturers who want to be positioned properly when the economy hits full growth mode—the Perfect Plant operates in real-time, and is fully capable of adjusting production levels and product mixes to match current market demand and/or the company's business objectives.

While the Perfect Plant is the centerpiece of this new manufacturing enterprise, it cannot—on its own—position a company to successfully navigate the new economy. To prosper in this new environment, manufacturers must connect the Perfect Plant to three key axes of business performance:

- Optimized Supply Chain Management
- Innovative Product Development
- Intelligent Asset Management

The Supply Chain Opportunity

The essence of supply chain management is striking the right balance between cost reduction and performance optimization. The current business climate makes this balancing act even more important, as well as more difficult. In this environment, supply chain executives must rethink what it means to be responsive. It's no longer enough to be able to react to isolated, unforeseen events. Supply chains now need the flexibility to replan and realign activities based on constantly changing business conditions, without sacrificing performance.

After an extensive assessment of market requirements, SAP has devised five supply chain strategies that will put manufacturers in a position to profit from the pending upturn while laying the groundwork for operating efficiently over the long term. SAP also has developed solutions that can help manufacturers master these strategies.

The strategies, and the corresponding SAP solutions, are:

- 1. Synchronize supply to demand.** Getting a clear picture of demand, via real-time signals from customers, is the only way to ensure a company's ability to respond appropriately to constantly shifting market conditions. Those demand signals must be translated, also in real time, into upstream material and capacity requirements that are distributed across the supply network as part of collaborative business processes. SAP's collaborative demand and supply planning applications enable easy synchronization of all supply side resources with current demand signals.
- 2. Optimize inventory across the supply network.** The ability to consistently maintain low inventory levels and high customer service rates separates successful companies from the competition. It's becoming clear, however, that one popular method of striking that balance—shifting the responsibility for holding inventory onto suppliers—does not provide adequate protection against sudden shifts in demand. A better approach is creating end-to-end supply chain visibility that ensures all inventory is in—or can be moved to—the appropriate location at any given time. The SAP Enterprise Inventory Optimization application by SmartOps helps reduce inventory across the supply chain while ensuring products are always available when and where customers want them.
- 3. Drive excellence in execution.** With the Internet and social media making it easier for customers to become comparison shoppers, delivering the highest possible customer service levels at the most efficient price points possible has never been more important. Companies must constantly fine-tune warehousing, distribution, and logistics networks to reduce costs, increase efficiency, and be more responsive to changing market conditions. The SAP Extended Warehouse Management solution provides the visibility necessary to optimize the management of logistics resources, making all warehouse and order fulfillment processes more efficient.
- 4. Collaborate across continents and company boundaries.** Collaboration is a competitive weapon for improving the performance of global business networks. It leads to strategic partnerships with suppliers and trading partners, resulting in business processes that make it easier for all parties to achieve their respective business goals. The SAP Supply Network Collaboration platform supports the exchange of information through automated, electronic processes, even if all supply chain members don't have sophisticated IT infrastructures.

5. Manage a sustainable supply network. Environmentally friendly business processes are now a necessity. They not only make economic sense, but many governments around the world require them. In addition to weighing the economic, environmental, and social consequences of all business processes, companies must be able to track and document compliance with government regulations in all countries in which they operate. Companies can use the SAP BusinessObjects Sustainability Performance Management solution to establish and track adherence to sustainability goals, reducing the overall cost of this increasingly important business function.

The Product Lifecycle Management Opportunity

As the economy rebounds, and companies start focusing more on growing revenues instead of cutting costs, the need to maintain a pipeline of new, innovative products will return to the forefront. Successfully building new product pipelines and ultimately increasing revenues will require approaching product development as a set of standardized, repeatable business processes.

These processes must support all aspects of product innovation and be connected to other business processes such as manufacturing and supply chain management. To help manufacturers master these challenges, SAP is continuously refining its Product Lifecycle Management (PLM) Portfolio and Project Management solutions.

These solutions offer a platform for:

- Ensuring that the company's product portfolio contains items that actually help a company reach its stated revenue and profit goals
- Managing the development of individual products as if they are projects that must be completed in a specific timeframe and within a specific budget. This is critically important for a company that is first to market with a new product. The goal is to enable the company to capture – and keep – the biggest share of the market.

The SAP PLM solutions also enable faster time to market by making it easier for members of global design teams to share product-related data. Including all team members in Web-based collaboration sessions—in which they all have access to the same information—allows for early problem resolution in the product design phase, greatly reducing the possibility of production delays and product defects.

SAP also has taken care to make sure its PLM solutions can support the development of all types of products. These include managing the multi-tier bill of material structures in complex

products such as industrial equipment and the recipes for process-oriented manufacturers such as food producers or pharmaceutical manufacturers.

The Intelligent Asset Management Opportunity

The recent global recession caused many manufacturers to liquidate inventories and shut down production facilities. As the economy recovers, however, manufacturers are reluctant to begin ramping up production, loading up on raw material or hiring new workers. Instead, they are exploring ways of responding to increasing demand with existing resources.

Intelligent Asset Management is the ideal strategy for accomplishing this goal. The first step in Intelligent Asset Management is ensuring that all production equipment is maintained in a manner that will allow it to function properly for the duration of its expected lifecycle. Next, there must be a way of compiling and managing data related to all corporate assets—plants, equipment, material and workers—so incoming orders can be immediately deployed to the facility that's best equipped to fill those orders in the least amount of time at the lowest possible cost.

SAP offers a portfolio of solutions to support a successful Intelligent Asset Management strategy. It starts with Manufacturing Execution Systems (MES) that track how much individual pieces of equipment are being used and how they are performing over time. This data enables the scheduling of maintenance activities before a machine goes down and delays production. SAP also offers a Manufacturing Integration and Intelligence (SAP MII) framework that combines MES and enterprise manufacturing intelligence applications to make sure all production facilities are capable of responding to shifting customer demand.

The SAP MII framework enables the building of composite applications—solutions that combine pieces of larger applications residing on the corporate network—to improve the performance of specific tasks, such as allocating orders to the proper locations or retooling equipment in response to demand signals indicating the need for a different product mix.

A Call to Action

As the economy continues to improve, manufacturers have a unique opportunity to manage the supply side of their business in a new and better way. As an executive, you can give your company a major head start on realizing that opportunity by structuring the enterprise around three key axes of business performance: Optimized Supply Chain Management, Innovative Product Development, and Intelligent Asset Management.

For more information on bringing these management techniques into your business,
contact SAP.

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