Microsoft

Succeeding in Today's Industrial Equipment Markets

Leverage Your Supply Chain as a Competitive Weapon

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Executive Summary

Industrial equipment manufacturers (IEMs) face fundamental changes in the way they do business. A dramatic shift in this vast market around the globe has suddenly made it possible for those firms with vision, strategy, and flexible supply chains to rapidly capture market share. And the prize is large and growing for those that do: The U.S. exported $131.3 billion in industrial equipment and machinery and imported $122.4 billion in 2007.[i] The European Union exported € 73.2 billion and imported € 21.3 billion—increases of 15.4 percent and 16.1 percent, respectively.[ii]

Combined with ailing economies and customers around the globe who are short of cash, the ability of industrial equipment manufacturers to effectively manage their operations—and those of their supply-chain partners—will likely determine their successes or failures (and perhaps survival) in coming years.

Succeeding in Today's Industrial Equipment Markets will help industrial equipment and machinery manufacturers better compete and succeed by examining the:

- Changing IEM customer market (for example, demand for increasing value at the same or decreasing cost, expectations of non-product services, and support)
- Challenges facing IEMs as they attempt to leverage market changes (for example, coordinating and improving upstream efforts with suppliers with their own operations and those of customers)
- Skills and tools needed to address changes and challenges (for example, moving beyond traditional buy-sell relationship with customers and information technologies to improve demand visibility and connect with customers and suppliers).

Changing IEM Customer Market

Customers' demands of industrial equipment manufacturers (IEMs) have changed dramatically over the past decade. Most important, customers now demand increasing value at the same or decreasing cost. And while few products are as complex and/or customized as industrial equipment, customers increasingly view the equipment itself as a commodity—with the major differentiators between companies now found in non-product value such as service, delivery, integration services, and maintenance. Many IEMs earn more today in after-sales service and maintenance than they earn on sales of the original equipment.

At the same time, the customer touch point for IEMs has also shifted. Even before the current economic downturn, many industrial firms had begun to trim engineering staffing levels. The result has been that with reduced in-house expertise, these companies suddenly lacked the skill sets to accurately identify and specify equipment needs, coordinate lines using equipment from many IEMs, and install and implement new lines and equipment. Customers now require assistance from IEMs not just for selection and installation of the equipment but for a wide variety of value-added services, ranging from line-integration planning to implementation to actual operation of the production line itself. Many European equipment makers were quick to act by setting up alliances to satisfy this demand for a broad range of startup services, and now IEMs around the globe are following suit.

As if those changes weren't enough, the core component of an IEM's "value package" must also include the same high standards of quality and reliability as ever—yet at a reduced total cost of ownership (TCO) over the lifetime of the equipment. Most IEM's effort addressing TCO comes in the form of non-product value-add: Customized training for customers' employees (on-the-job, classroom, and just-in-time modules available online), technical aids and equipment documentation (from installation to operation to maintenance), and energy-optimization strategies and techniques. These services have led to an ongoing redefinition of what it means to be an IEM. Customers have begun to ask IEMs for help reconfiguring existing equipment to accommodate new product lines and for asset-management information and service to maintain and improve equipment performance.

These demands appear at first glance as a huge drain of resources and expenses for IEMs. Yet savvy IEMs view these trends as opportunities to dramatically increase profits. Why? Because providing more customer value doesn't necessarily require more investment on the part of IEMs, while many of the added value components (such as asset monitoring and management) offer chances for new revenue and increased customer loyalty. But thriving (or even just surviving) in this new business landscape will require IEMs to adopt new tools and new ways of thinking about how they operate—especially with partners in the supply chain.

Challenges for IEMs in Leveraging Market Changes

It's a paradox: As focused as IEMs are on downstream challenges with customers, the ultimate solution for meeting those customer demands lies upstream within their own operations and those of their suppliers. The IEM market has always been supplier-centric, requiring well-planned procurement and sourcing strategies for components and subassemblies—including, integrated circuits and chips, motors, sensors, controllers, and stampings—from an array of vendors for any single piece of equipment. It's interesting that this reliance on part and component vendors actually increases over the life of equipment, as replacement parts (and the documentation supporting them) are vital to keep manufacturing customers up and running. Providing these service parts is a complex undertaking, since a typical IEM may produce a piece of equipment incorporating hundreds or thousands of parts from a similar number of suppliers.

Productively meeting customer demand has always required IEMs to develop more than a simple buy-sell relationship with their suppliers. IEMs frequently need to quickly assess not only their own inventory levels but also those of their supply chains; indeed, one of an IEM's greatest operational concerns is typically its ability to manage inventories as tightly as possible without putting customer orders in jeopardy. This, in turn, helps the IEM manage cash flow to address the next wave of customer orders and supply procurement. Savvy IEMs also look out over the supply chain to assess available resources (for example, design expertise and integration skills) and production capacities throughout the supply chain to accommodate not just fluctuations in demand but new product opportunities, as well. This is especially critical—and challenging—as IEMs develop new business around the globe, such as China and other emerging markets, and begin to source non-product services to complement their industrial equipment. In turn, suppliers look to IEMs for up-to-date perspectives of customer demand—not just the IEMs' forecasts, but the IEMs' customers' forecasts, as well. Suppliers may be willing to co-locate facilities and inventory to new markets—but not without a reliable demand forecast.

This visibility and sharing, up and down the supply chain, rarely emerges from simple buy-sell relationships but requires IEM coordination of alliances, partnerships, and information, as well as overcoming the technical challenges of connecting information technology systems among suppliers/partners. These challenges are compounded when suppliers serve multiple IEMs, meaning that one IEM's product development or engineering secrets run the risk of exposure to competitors. Smart IEMs partner with suppliers, while at the same time developing clear, definitive working agreements that address intellectual property and proprietary equipment knowledge.

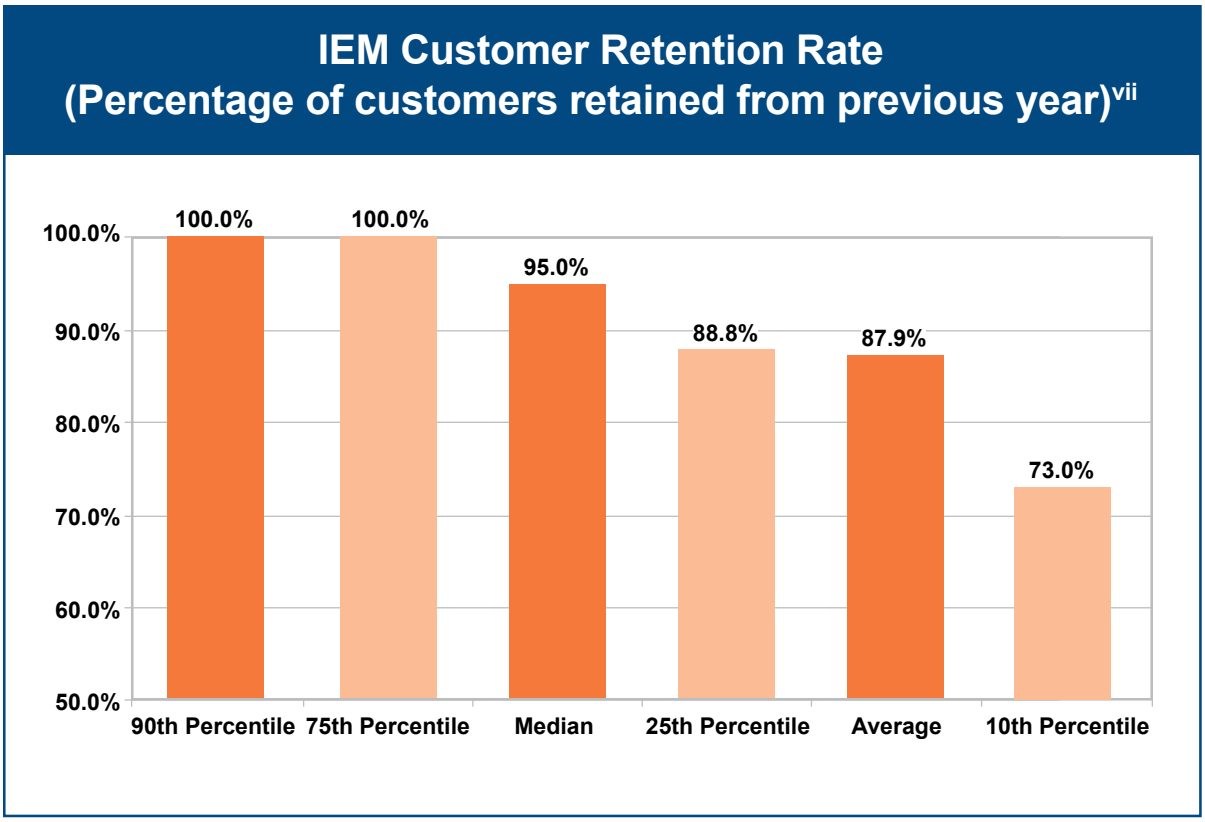
For most IEMs, enhanced supply-chain management and coordination should be an extension of what's already occurring. Surprisingly, though, the IEM sector hasn't made much more progress with supply-chain integration than other industries have. For example, while three-quarters of North American IEMs report operations "integration" with their customers (25 percent report "extensive integration" with customers), 77 percent of other types of manufacturers (***non***-IEMs) also report "integration" with customers (23 percent "extensive integration"). Similarly, looking upstream, 80 percent of IEMs report "integration" with suppliers (20 percent report "extensive integration" with suppliers), while 75 percent of ***non***-IEMs also report "integration" with suppliers (23 percent report "extensive integration"). What does all this mean? Simply put, the IEMs—despite requiring more cooperation to deliver service and maintain profitability—are no more collaborative than ***non***-IEMs.[iii]

The failure to develop greater integration up and down the supply chain—sharing information, forecasts, and product knowledge—has contributed to poor customer-facing performance metrics for many IEMs. For example:

- **Warranty costs:** One in five IEMs report warranty costs of 8 percent or higher. The IEM market involves complex, large equipment for a wide array of applications, and, thus, warranty costs of 2 percent (median) can be expected to be higher than that of other industries (1 percent).[iv] But many IEMs are shelling out exponentially more in warranty costs, indicating flawed delivery and fulfillment processes. This may also indicate an inability among IEMs to effectively manage supplier parts and/or share warranty burdens with suppliers.

- **On-time delivery:** In addition to quality, as indicated by warranty costs, delivery is an issue for many IEMs. Here, too, it's understood that this market is not comparable to assemblers bolting together a few widgets or process firms filling tankers; long development and production lead times are frequent among IEMs. Yet 24 percent of IEMs have on-time delivery rates of 80 percent or lower. Even the typical 90 percent (median) on-time delivery performance is five percentage points lower than that of other industries.[v] Worse, these performances are based on a metric that merely addresses the timeliness of delivery, not perfect-order delivery (including, time, items, and labeling).

- **Customer retention rates:** Most IEMs keep the vast majority of their customers from year to year, with a retention rate of 95 percent (median ***shown below***). Yet 23 percent of IEMs have retention rates of 80 ***percent or worse***. Compared to the median or typical retention rates in the industry, these struggling IEMs have to invest more in sales and marketing to replace four times as many customers as their better-performing competitors. Given many of the warranty and delivery issues cited earlier, this outcome is not unexpected.[vi]



Amid poor customer-facing performances, such as those above, the tendency is to often focus on internal processes, myopically narrowing the problem down to production without considering the broader spectrum of sales, design, sourcing, production, distribution, maintenance, and all the factors that influence success in those activities. Even the leanest of plant floors cannot satisfy customers if those same theories are not applied to supply chain processes that impact them. In this complex industry, many IEM problems (and solutions) are found outside the organization itself. How efficient is the demand-driven supplier network, the processes, and the systems that connect customers with operations and suppliers? How visible is information about these processes, and how well is that information translated into actionable plans and schedules for the entire supply chain? For example, how are last-minute customer-order changes communicated to manufacturing? Conversely, do sales representatives influence customer demand patterns in ways that optimize supply-chain capacities and inventories, or do they drive sales and customer requests that increase operational complexity without adding customer value?

Skills and Tools to Address Changes and Challenges

IEMs face similar partnering challenges with customers; it's difficult if not impossible to offer increasing value and integration capabilities while maintaining a traditional, buy-sell relationship with customers. This means that for IEMs to reconfigure their internal and external processes around a value-added strategy, they must work as hard at building partnerships with customers as they do at building machinery and demand-driven supplier networks to satisfy customers. This is difficult and time-consuming, but, over time, the transition from transaction-based relationships to partnerships and supplier networks will enable an IEM to better understand what their customers need—and earn the rewards for satisfying those needs.

As a partner or preferred supplier, an IEM earns the right to customer intimacy, enabling the IEM to more readily receive and analyze information—about customer needs, concerns, plans, forecasts, requirements, frustrations, and so on. But this privilege comes with enormous responsibilities, at the core of which is the absolute requirement to develop a customer information management strategy. Savvy IEMs understand that they must consolidate data and data systems for faster, more detailed analysis; customers react badly when IEMs are given detailed information but fumble the handoff and use of it. Conversely, development of a solid customer information management strategy can lead to a clearer view of customer demand, improved visibility into the supply base, and an improved ability to react to market and supply chain signals. Such a strategy can also help to optimize schedules among production, service, and maintenance to ensure world-class customer satisfaction.

Smart IEMs understand how mission-critical a customer information management strategy is; indeed, many IEMs and their sales forces are already using various IT tools to proactively evaluate customer buying patterns (such as products, services, and value-add requests) and forecasting customer demand. Enterprise resource planning (ERP) and supply chain management (SCM) applications allow IEMs to unify activities across the supply chain (their suppliers now act as one with them) and map customer demand to manufacturing models (that is, getting pull signals for lean production flowing back through the supply chain). A strong customer relationship management (CRM) solution also can help manufacturers gain greater visibility into their sales pipeline, resulting in more accurate capacity planning and improved efficiencies across sales and marketing. Interestingly, IEMs are slightly more likely than other manufacturers to have implemented a CRM solution (23 percent of IEMs versus 19 percent of other industries), yet more than three-quarters have yet to recognize the benefits of a CRM solution.[viii]

This low rate of CRM adoption is doubly unfortunate because CRM in combination with other IT systems—ERP, SCM, and financial management—can enable efficiencies and leverage customer demand data throughout an IEM's supply chain and support infrastructure. (Only 11 percent of IEMs have both CRM and ERP in place, and 56 percent have implemented neither, indicating a substantial opportunity for system-wide modernization.[ix]) Leading IEMs are pursuing an organizational approach to improved IT systems and processes, with the goal to capture and share "product" demand signals across the enterprise and its supply chain, triggering not only production but also offers for implementation services, post-sale asset management opportunities, and contracts for replacement parts.

Most important, the IT infrastructure and processes that allow IEMs to get closer to customers must be accompanied by cultural changes that encourage partnership (and end-to-end supply-chain visibility) with suppliers. What good is it to work closely with a customer to secure fast-turnaround contracts for 10 machines if the suppliers providing electronics for those machines aren't given the same insights into customer timelines?

A demand-driven supplier network can be a strategic weapon, but only if supply-chain visibility provides every partner with not just information, but also knowledge—actionable data that allows effective planning and scheduling to fulfill customer demand. Savvy IEMs are investing time and resources into the IT infrastructures, manufacturing business systems and customer relationship management solutions that will pay dividends later in the form of new opportunities, cost savings, customer loyalty, and new customers. Are your firm and your supply chain ready for the new IEM landscape?

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[i] Machinery except electrical data, TradeStats Express, National Trade Data, 2007 (tse.export.gov).
[ii] Eurostat, data on "machinery specialized for particular industries (SITC 72)"
[iii] North America data on 164 machinery manufacturing plants, NAICS 333, from The IndustryWeek/Manufacturing Performance Institute 2007 Census of Manufacturers; 2007 Canada Manufacturing Study, conducted by Advanced Manufacturing and the Manufacturing Performance Institute; and Estudio De Manufactura Mexico 2007, conducted by the Manufacturing Performance Institute with support of CS Events.
[iv] Ibid.
[v] Ibid.
[vi] Ibid.
[vii] Ibid.
[viii] Ibid.
[ix] Ibid.

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About Microsoft Dynamics

Microsoft Dynamics is a line of integrated, adaptable business management solutions that enables you and your people to make business decisions with greater confidence. Microsoft Dynamics works like familiar Microsoft software, such as Microsoft Office, which means less of a learning curve for your people, so they can get up and running quickly and focus on what's most important. Built to work with Microsoft technologies, it works easily with the systems your company already has implemented. By automating and streamlining financial, customer relationship, and supply chain processes, Microsoft Dynamics brings together people, processes, and technologies, helping increase the productivity and effectiveness of your business and helping you drive business success.

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