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Strategic Outsourcing: Electronics Manufacturing Transformation in Changing Business Climates

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In this issue:

When consumers see a brand on a product they buy, they consider the quality, function, value and reputation of that brand and the product. However, chances are that product was designed and built by a completely different company than the brand says—and at a level of quality, cost and with superior delivery that the “branded” company could provide. Why are companies turning to “unknowns” to manufacture products with their name on it? Read on....

Across industries, manufacturing outsourcing isn't a new concept for Original Equipment Manufacturers (OEMs). “Make vs. buy” decisions have been around for a long time, and it's hard to find any company that completely manufactures its own products these days. Yet, historically speaking, electronics manufacturers are relatively new to the concept.

As recently as 10 years ago, vertical manufacturing strategies were still the rule for manufacturers of high-technology electronics. In 1990, the global market was worth nearly \$100 billion, while less than 5 percent of all manufacturing was outsourced. A tremendous surge in manufacturing outsourcing really began in the mid-1990s and continued into the 2000s. During this time, a large number of high technology OEMs were revising their manufacturing strategies to take advantage of the wave of outsourcing alternatives available to them, to both improve performance and reduce asset and operations costs. In today's challenging economic environment, while the available market is down by most counts over 10% over the past three years, the Manufacturing Market Insider estimates the Electronics Manufacturing Services (EMS) market at \$92.7 billion, down about 5.4% from last year, less than half the decrease in available market.

This indicates that while end markets have softened sharply during the recent downturn, OEM trends toward outsourcing, and thus the EMS's share of available market, relatively speaking, continue to grow. Clearly, today's growth dynamics are very different from those of just a few short years ago.

Until recently, these arrangements were challenged by their ability to sustain operating performance, meet market demand, and deliver the benefits of lower overall product cost. In the economic downturn, high-technology companies have been especially hard hit, which translates into serious challenges for supply chain partners that had assumed greater responsibility for manufacturing. In many cases, these providers had acquired costly assets from the OEM's as part of the deal—assets that have ended up underutilized in the softer economic environment. And while demand was

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slowing for end-item electronics, EMSs and Original Design Manufacturers (ODMs) were hard at work tailoring operations to improve performance, investing in infrastructure, and building out services offerings to provide the OEMs with broader business solutions. In short, their attention was split between eroding end-markets and managing in-house matters.

In the midst of the downturn, OEMs, EMSs, and ODMs alike have seen some painful consequences of the ways these models were implemented not so long ago, when the biggest challenge the industry seemed to face was how quickly it could grow. Many arrangements were caught off-guard by the downturn.

Today's business climate marks an inflection point for both the OEM and EMS/ODM industries and their respective manufacturing strategies. For many OEMs, there's no turning back from outsourcing decisions—the assets are gone and the core competencies are no longer in-house. While future success is determined more by the business strategy (products and services delivered, markets served), the manufacturing strategy is a key enabler of the business strategy. It should be focused on giving the OEM greater flexibility, improved cost effectiveness, reduced cycle time, reduced time to market, and sustained or higher quality. Achieving these objectives is incumbent on both the OEM and its manufacturing outsourcing providers.

The Evolution of Outsourcing: From Transactional To Collaborative Partnerships

Outsourcing in the electronics industry has evolved dramatically during the past decade. In its earliest and most basic form, the OEM's make vs. buy decisions were based largely on opportunities to reduce costs or meet specialized manufacturing needs. The outsource provider would take on manufacturing for specific products on a contract-by-contract basis. Through economies of scale across many such contracts, contract manufacturers were able to leverage operational

expertise, lower-cost labor, and buying power—or some combination of these—to lower the costs to the OEM. For instance, an OEM making a broad range of computing products could achieve greater economies by working with a provider that specialized in building memory cards instead of maintaining that capability in-house. Because the provider built far more memory cards than the OEM ever would, the provider received significant volume discounts from its own suppliers—savings that the provider passed along in part to its customers. Also, because the provider specialized in manufacturing, it was more efficient at reducing setup and changeover times.

Such conventional outsourcing served electronics OEMs well into the mid-1990s, when demand was relatively predictable, competition was less fierce, and products were simpler. Then, things began to change. Products grew more and more complex. OEMs found that they had to dramatically boost investments in capital equipment to keep up with new manufacturing requirements—which ate into profits. The pace of innovation increased dramatically, leading to shorter product life cycles and increased pressure to decrease time to market. Customers became increasingly demanding and fickle in a business where market share was king.

In response, a number of OEMs have used outsourcing to quickly and cost effectively enter new markets. By teaming with an experienced partner, an OEM could significantly cut the time and cost involved in developing new products—such as Microsoft did in its launch of the Xbox (see sidebar 2).

Some OEMs found that a move toward more collaborative outsourcing arrangements could improve their planning accuracy and ability to respond more quickly to changing market conditions. By outsourcing manufacturing and some of their "upstream" supply chain activities, OEMs could free themselves to focus on their core competencies, tighten planning processes,

Sidebar 1: Outsourced Manufacturing Asset Transfers

In January 2002, IBM outsourced manufacturing of its NetVista desktop computers to Sanmina-SCI as part of a broader strategy to reduce both fixed and variable costs. Under the \$5 billion arrangement, Sanmina-SCI assumed manufacturing responsibility for some IBM desktop computers in the U.S. and Europe and agreed to acquire two IBM buildings (along with capital equipment) in Research Triangle Park, NC, where the IBM computers are manufactured. Sanmina-SCI also agreed to hire 900 former IBM employees there, along with the 100 employees at IBM's smaller Greenock, Scotland, facility that manages

European production of the NetVista computers. This agreement supported IBM's strategy of keeping PCs as an important element of their e-business infrastructure offerings, while making this business even more cost-competitive in the marketplace. It also leveraged EMS industry skills and scale to improve cost performance, allowing IBM to focus more of their own investments on areas that deliver the highest value to their customers.

Source: Reuters

Sidebar 2: Product Innovation

OEMs also have used outsourcing to help quickly and cost-effectively enter a new market. One of the best examples is Microsoft. Microsoft's software business model traditionally has been based on licensing its intellectual property—operating system and applications software. But in 2000, in a strategic shift, Microsoft added game consoles to its product mix with the Xbox. To avoid the need to build fabrication facilities and repair capabilities—neither of which were available in-house at

the time—Microsoft hired Flextronics to introduce the product and ramp up manufacturing to meet global demand. Ultimately, the Microsoft Xbox product was built in Flextronics's existing manufacturing facilities around the world. In this way, Microsoft gained world-class, global manufacturing capabilities without investing new plants.

Source: Time Magazine. August 13, 2001

Sidebar 3: Transforming the Supply Chain through Outsourcing

In January 2002, NEC and Celestica entered into a five-year manufacturing outsourcing relationship, covering a broad range of products and supply chain services. Under the agreement, Celestica assumed supply chain management, sub-assembly, final assembly, integration, and testing for a broad range of NEC's optical backbone and broadband access equipment—all areas previously owned by NEC. This arrangement provided NEC

with a flexible and lower-cost solution than they otherwise would have been able to accomplish on their own, leveraging the capabilities and economies of scale provided by a tier 1 EMS provider.

Source: Celestica, January 2002.

and be more responsive to customer demand. Instead of having to ramp-up or down the workforce, or start and shut down operations, the OEM could simply adjust the fee structure of the outsourcing agreement.

Such arrangements vividly illustrate how today's outsourcing arrangements differ from more traditional forms. One major difference is shared strategic risk. Partners now must work together to achieve strategic outcomes. Another is measurement—performance is measured by not just cost savings, but also by revenue, earnings per share, and market share. Finally, today's outsourcing arrangements are highly dependent upon tight linkage between partners. The ability of the outsourcing relationship to become a

“logical enterprise”—in which all trading partners in the supply chain are virtually synchronized—is critical to success.

Profile of a Changed Marketplace

Indeed, high-technology OEMs have benefited from their outsourcing relationships. However, the evolution from simple contract manufacturing to synchronized supply chains has substantially changed the structure, nature, and purpose of the players in the industry. While today's anemic economy presents many operational challenges, the supply chain will continue to evolve. Working together, players on both sides of the relationship stand to benefit in the future by improving the way the supply chain operates today.

	EMS	ODM
Market Segment	Full-spectrum (data processing, communications, consumer, automotive, military, industrial, medical)	Mostly data processing, PC and notebooks. Moving into cell phones and PDAs.
Product Mix	Various (from high volume/high mix to low volume/low mix)	Mostly high volume/low mix
Product Maturity	Work with OEMs on emerging products and technology, products at any part of life-cycle	Mostly mature products with well-defined standards
Design	Some offer design services working closely with OEMs (cost reduction, DFM and time to market)	Skilled in providing low-cost design for limited set of products
Footprint	Top-tier EMS providers have global footprint	Mostly in Asia/Pacific region
Product Branding	None	Several sell products under their own brand
Intellectual Property	Customer owns intellectual property	ODM has own intellectual property
Other Services	Direct order fulfillment to end customer, return and repair, other services to address OEM's needs	Only some provide additional services such as direct shipment to end user

Figure 1: EMS and ODM Providers: Compare and Contrast

In the future, the lines between EMSs and ODMs will continue to blur for certain market segments (generally higher-volume products) as the providers expand both vertically and horizontally. But there are still key differences in what each has to offer.

“New Breed” Of Supply Chain Trading Partners

Over the past decade, the most visible changes have been the rise of the EMS and ODM industries (Figure 1). As OEMs broadened the scope of activities they outsourced, contract manufacturers responded by complementing manufacturing with value-added services such as direct order fulfillment to the OEM's customers and return and repair operations—thus transforming the industry from contract manufacturing to EMS. Also, new breeds of outsourcing providers emerged—the Original Design Manufacturers—to meet OEMs' desire for products that leveraged the ODM's unique design capabilities, meaning that the OEM no longer had to maintain those specialized design capabilities in-house. When the economy was growing, EMSs and ODMs grew at an astounding rate, with year over year growth eclipsing 20% during the late 1990's. And while today's economy has presented both EMSs and ODMs with serious challenges, the percentage of manufacturing outsourcing has continued to grow, with EMS's growing share of available market by approximately 5% over 2001. While economic recovery will vary by industry segment, OEMs relying on manufacturing outsourcing are expecting greater flexibility and scalability in recovery than they would otherwise have in-house, allowing them to seize market opportunities and gain marketshare as a result. The EMSs and ODMs have to be ready for this. Thus, outsourcing providers are positioning now to be prepared for customers' needs in the future—a future what will look very different from the past.

Disaggregated Supply Chain

Along with these developments—arguably because of them—the role of many OEMs has shrunk to providing four key elements: a recognized brand, product innovation, end-customer relationships, and a sales channel. While this diminishing role has helped OEMs with their balance sheets, the cultural change also has made them nervous.

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(generally higher-volume products) as the providers expand both vertically and horizontally. But there are still key differences in what each has to offer. EMSs are unlikely to invest too heavily in design capabilities without either a contract or other agreement with their OEM customers. And while expanding into more market segments, ODMs will remain focused on a core set of products, thus allowing them to specialize in manufacturing for those segments. That being said, both are adding new capabilities and moving into new business markets—and each group has acted in their own way on aspirations of moving beyond “low-cost supplier” status to become major industry players.

This is seen in private-label products from ODMs that are making their way into Russia, China, and Southeast Asia, where global brands have relatively little marketing clout. Acer, an ODM of notebook computers for several OEMs, also manufactures computers under its own brand name and has established brand presence in several markets. Such action will put ODMs in a position of virtual competition with their OEM customers. In some cases, the OEM either accepts or willingly relinquishes the market to the ODM as a way to keep the ODM/OEM relationship on stable footing. In other cases, the OEM has knowingly left low-margin markets to the ODM, realizing that some ODM competition is inevitable, and that such markets offer little potential for the OEM.

Ultimately, there are and will continue to be inevitable conflicts over customers and channels. Today, OEMs generally feel that they own both the channel and the customer relationships. But the EMSs and ODMs could argue that they might be better equipped to meet customers' needs if the OEM would give them unfettered access to customer input—something that an OEM is unlikely to do, as it would relinquish control and increase the risk of becoming obsolete.

Interestingly, the maturation of EMSs and ODMs risks the erosion of one of the principal characteristics that made them attractive to OEMs

As outsourcing arrangements have grown more complex, OEMs, EMSs, and ODMs alike must work harder to promote the success of the arrangement.

in the first place: operational efficiencies. EMSs and ODMs risk losing the leanness by adding capabilities and services, and their resulting economics would come to resemble those of OEMs—but without brand identity—blurring the lines between them and their customers even further.

More Complex Supply Network.

As they move to more collaborative outsourcing arrangements, OEMs must remember that such efforts entail far more complexity than conventional outsourcing. The OEM now must deal with not one, but two or more corporate cultures: its own and that of its outsourcing partner or partners. The same goes for business processes and technologies. To adapt to the new working arrangement, OEMs and EMSs are tailoring their skill sets in both the business and in their technology groups.

New Metrics For Success.

Finally, evolutionary outsourcing arrangements require new metrics. The traditional measures used in conventional outsourcing—including cost management, quality, and asset efficiency—have been augmented, even replaced, by new ones: agility, flexibility, speed to market, market adoption rate, and ease of use. While today's economy demands that all players in the supply chain individually optimize cost performance, it is also very unforgiving when the overall supply chain under-performs. Therefore, when business partners can agree on and implement common metrics that incent the overall supply chain to perform better, players up and down the chain benefit from the improved overall performance of the channel. Shared metrics can include time to market, performance against design for manufacturability and maintainability objectives, total cycle time, and inventory levels across enterprises at specified levels of the product's total bill of materials. By sharing performance against these metrics, partners are incented to adopt win-win behaviors from which they can each benefit individually.

Going Forward: Making the Most of Your Outsourcing Arrangement

As outsourcing arrangements have grown more complex, OEMs, EMSs, and ODMs alike must work harder to promote the success of the arrangement. The following should be addressed by partners on both sides of the deal to increase individual performance:

1. **Make dealing with inefficiencies your problem—not someone else's.**
Efficiency is the core objective of outsourcing and requires collaboration. Therefore, all parties must be vigilant about rooting out and eliminating inefficient practices that could limit the benefits of the arrangement.
2. **Clarify the division of responsibility between the OEM and the EMS early and play to each other's strengths.**
Don't assume that the other party will know what you're thinking, or that your partner will be handling a specific activity. Explicitly spell out roles and responsibilities—in writing—at the beginning of the agreement and update the working arrangement periodically by sharing responsibility for continuous improvement.
3. **During negotiations, make sure all parties stand to be profitable.**
Think win-win, not "we win." While outsourcers earn their living by building products better, faster, and less expensively, they still need margins to survive. OEMs must not squeeze their partner to the point at which they're making it too difficult for the arrangement to be a solid business proposition. On the other side, EMSs and ODMs must remember that cost is a principal driver of the arrangement, and therefore must ensure that in their drive to make a profit, they don't negate one of their most significant value propositions.

4. Create objectives for continuous improvement and remember to monitor them over time.

In today's dynamic environment, conditions can change at a moment's notice. By working together to continually monitor the operation and identify ways to improve it, all parties can help ensure that the relationship is still meeting the market's needs while optimizing the relationship's overall performance.

5. Manage results—don't just monitor them.

Bake continuous improvement incentives into outsourcing arrangements. Waiting for the manufacturing outsourcer to deliver results to key metrics without active participation from the OEM leads to sub-optimal results when measured across the overall supply chain. Make their metrics your business, and vice versa.

6. Avoid micro-managing the supply-chain ecosystem.

Instead, leverage your business partners' strengths and economies. Many OEMs are reluctant to give up control that they have had for decades, for reasons generally involving mistrust, corporate culture, or company pride. Embrace the fact that manufacturing outsourcing entails giving up some control, ensure that your provider understands your company's key concerns, and implement processes that allow them flexibility to leverage their scale while operating within a framework that supports your key objectives.

7. Ensure agreement on internal and external performance metrics.

The collaborative nature of today's outsourcing arrangements requires concurrence on how the relationship's performance will be measured and evaluated. One simple example could be the metric of "on-time delivery." If the OEM defines "on-time delivery" as the

shipment arriving at its dock when promised, but the EMS defines it as when the delivery was shipped from its facility, the performance of the arrangement may be compromised.

For OEMs

Aside from addressing the issues of mutual concern, there are a number of important considerations for OEMs individually (Sidebar 4), as well as several crucial steps that they must take on their own to maximize the benefits of their outsourcing arrangement.

For starters, OEMs must understand the strategic implications of outsourcing. Unlike the old days, outsourcing is no longer strictly a transaction. Therefore, it's critical for an OEM to confirm how outsourcing fits within the context of its various strategies and amend them to accommodate tighter working relationships with partners. Two strategies of particular concern are product and manufacturing. The product strategy comes first. It defines three elements: the items a company manufactures to promote its market identity; how these products support the company's overall value proposition to customers; and most importantly, order-winning characteristics of these products. Next, is the manufacturing strategy that defines how the product strategy will be achieved. Outsourcing obviously would have a major impact on the development and execution of both strategies.

OEMs also should use outsourcing as an opportunity to divest themselves of any assets and functions that are not core to their value delivery. The current economic environment calls for companies to minimize their capital expenditures, whether depreciated or not. Working with manufacturing providers, OEMs should focus on the efficiencies enabled by the new arrangement—ensuring that they don't create more work and bureaucracy (and, therefore, headcount), and that each one will be positioned for success from organization, technology, and process standpoints.

Sidebar 4: Top 5 Questions for OEMs To Answer Before Outsourcing—And Why They Matter

1. What will help my company extend the capabilities that differentiate it from the competition?

Why this matters: The best setting for a collaborative-manufacturing relationship is a new, end-to-end supply chain which supports a coherent business strategy. In all too many cases, companies skip the strategy stage and instead jump to a transactional model, bidding work out to the lowest-cost provider that is more reactionary than forward thinking. Asking this question first can help you avoid being short-sighted and risk repercussions in the long term.

2. Do both sides of the collaborative-manufacturing relationship possess the needed technology tools?

Why this matters: In-depth sharing of data between partners is vital but, unfortunately, rare. Ideally, an outsourcer and its customer will agree upon which data elements are key to the success of the arrangement, and will focus on enabling a mutual exchange of this information without clouding the picture with too much information or incompatible technologies. Further, each partner will understand and respect the other's need to protect its own information, and limit the focus on information that directly impacts the performance of the arrangement. Generally, if the partners lack data-sharing technology or collaborative approaches to outsourcing arrangements enabling the effective sharing of information, the spirit of the collaborative relationship is likely to be thwarted.

3. Can your management style, as well as your company's culture and internal politics, adapt to collaborative manufacturing? In other words, "Can you let go"?

Why this matters: Many companies are surprised to learn that outsourcing requires rigorous management. They expect managing the relationship to be a simple matter of holding the provider to the terms of the contract. But this is far from optimal. In fact, outsourcing requires more management—at a different and generally higher level—as well as different management skills. Managers must be retooled in the processes of collaborative manufacturing across enterprises, including new sourcing techniques, inventory control, and logistics. Furthermore, outsourcing strains a manufacturer's corporate culture. Assets are

often relinquished and people are either redeployed or sometimes laid off. Operations must be modified, sometimes dramatically. Letting go is never easy. Successful partners view outsourcing as a merger, not a divestiture. Can your company make the cognitive leap?

4. Have you balanced the likely savings from outsourcing with other financial objectives?

Why this matters: Cost savings alone are not enough to justify the risks and challenges of outsourcing. Unexpected costs—including those involved in acquiring or building new capabilities and technologies—may cause those plans to go awry. Instead, balance cost savings with other financial goals, including increased cash flow, greater financial flexibility, asset divestiture, and avoidance of future asset-related investments.

5. Is the collaborative outsourcing arrangement designed to make your company faster?

Why this matters: No matter how you measure it, speed is one of the most essential capabilities in today's business environment. Whether it be time to market, time to profit, time to scale, reaction time for demand changes, or cycle time to implement engineering and design changes, speed is vital. Speed-based relationships require tight integration between the OEM and its external partners—which, in turn, requires partners to have a collaborative approach to your business. An outsourcing arrangement based purely on cost savings is not like to result in an increase in operational speed.

Going forward, EMSs are going to be far more particular about acquiring assets from OEMs as a requirement of doing business, positioning instead for moving product to lower-cost areas of the world where they have specific manufacturing capabilities.

For OEMs new to manufacturing outsourcing, starting small is advisable. Outsourcing relationships take time to mature, and the impact on the OEM's culture and organizational processes will take time to implement and adjust to. Starting small also makes measuring results easier and allows for adjusting the model before implementing large-scale change. Also, OEMs increasingly are moving toward organic outsourcing models, whereby outsourced products are converted into existing EMS facilities that have the necessary manufacturing capabilities. While this eliminates for the most part the transfer of assets, it presents a more immediate problem for the OEM, which must make hard decisions about what to do with the assets when the manufacturing is gone. In most cases, both parties benefit when these hard decisions are made in the early stages of the contract.

Bargaining power is shifting, and EMS asset acquisitions will be less prevalent in the future than they were in the past. When they do occur, they'll be based as much on the EMS's strategic interest in acquiring capabilities as on the OEM's desire to unload the assets. In the past, large outsourcing contracts often included the transfer of a vast number of assets from the OEM to the EMS. Going forward, EMSs are going to be far more particular about acquiring assets from OEMs as a requirement of doing business, positioning instead for moving product to lower-cost areas of the world where they have specific manufacturing capabilities. EMS's are better able, and much more likely, to offer better terms to OEM customers when products move into existing infrastructure, or when they're able to move products throughout their own organization.

Although they should start small, OEMs also need to think big. They must recognize that the sum of all manufacturing sourcing decisions is greater than each individual parts. When considering outsourcing, an OEM shouldn't be content with achieving only manufacturing efficiencies. In fact, cost reduction is just a starting point.

Before outsourcing, an OEM must consider how it will scale effective outsourcing arrangements into larger, more collaborative processes that can maximize total economic yield—as measured in terms of shareholder value. Strategic, operational, and financial views of the deal should be integrated together into a common business case that also includes unique scenarios for changing business conditions.

Furthermore, the OEM should also identify how the business will collaborate with a broader range of partners to integrate new, innovative capabilities into the business. Such a “hybrid” model can boost margins by enabling OEMs to bundle strong, great products with service offerings that increases the value proposition to the customer. The goal is for each party to focus on and exploit core competencies, avoid cannibalizing the other, and seek to eliminate redundancy. Such relationships provide huge competitive advantages because they effectively squeeze out smaller, niche companies that can't match their scale. Ultimately, possessing and exploiting a few exceptional (differentiating) capabilities will be far more advantageous than having many standard ones.

Finally, OEMs should address head-on the organizational ramifications of moving to an outsourced manufacturing strategy by considering creating the position of vice president of extended supply chain. Many OEMs have already seen the benefits of such a shift internally, including not only standardizing business processes, but also having a change agent at the executive level who can promote a common interface with manufacturing outsourcers and negotiate tough but fair contracts with supply chain partners. In migrating from internal to extended supply chains, an OEM will take on considerable complexity that it never had to deal with before—and, as a result, will have to become even better at supply chain management.

To gain the greatest effectiveness from outsourcing, the collaboration standards should reside where the economies of scale are achieved—not necessarily where those economies of scale are sought.

EMSs/ODMs

There are also considerations for the EMSs and ODMs (Sidebar 5), as well as key issues to that should be addressed to help ensure that they are providing the most value to their clients while maximizing their own profits.

First and foremost, they should sell and deliver collaboration to OEMs. To achieve the true value of outsourcing, OEMs must increasingly rely on effective collaboration. In the past, partners have found it difficult to agree upon which party should be allowed to define the collaboration techniques. Typically, the EMS or ODM deferred to the “buyer” (OEM) in the equation. However, to gain the greatest effectiveness from outsourcing, the collaboration standards should reside where the economies of scale are achieved—not necessarily where those economies of scale are sought.

Clearly, collaboration is not a “one-size-fits-all” proposition. Appropriate degrees of collaboration will vary depending on a number of factors including product complexity, demand variability, degree of engineering change, complementary service offerings provided by the outsourcing partner, order-fulfillment requirements, and cycle times. There's a huge difference in collaboration requirements between simple outsourcing of PCBs and the outsourcing of manufacturing and systems integration with a direct fulfillment model for configure-to-order systems.

Second, they must exploit capabilities beyond manufacturing for higher margins and increased use of capacity. EMSs and ODMs no longer can get by as low-cost labor shops. New-product introduction and product-lifecycle management offerings are vital to OEMs. In fact, their use directly correlates with success in the marketplace. Such offerings also help the manufacturer, whether EMS or ODM, to increase existing asset utilization rather than take on the additional cost and risk of acquiring new assets. For complex products, EMSs and ODMs should provide direct-order fulfillment, assembly, test, and systems

integration. Over time, OEMs will increasingly come to rely on direct-fulfillment models as they discover that this approach provides an effective, scalable solution that addresses total OEM costs. If necessary, EMSs and ODMs should develop a network of their own alliances to bring such capabilities to the table.

Third, EMSs and ODMs must manufacture globally and integrate locally. This is especially true for the largest EMSs. Those that optimize globally to take advantage of the lowest-cost manufacturing markets, assert stronger buying power, and increase localized integration with OEM customers will outperform their competition.

Implementing rapid scalability and flexible capacity models across the enterprise also will be a key to success. As the economy improves, the ability of EMSs and ODMs to scale up and down rapidly will be a major contributor to their market growth.

And, it's become increasingly critical for EMSs and ODMs to take a more strategic, shareholder value-driven approach to their deals. Financial and asset management are both critical in a changing economy. Even more so in the current economic climate, CEOs face a balancing act between generating revenues and managing cash efficiency to achieve shareholder value. EMSs and ODMs must ensure that they excel in inventory and cash-cycle performance—which may entail outsourcing some of their own non-core functions—and base their asset acquisition decisions on strategic importance versus short-term revenue generation.

Conclusion

Manufacturing outsourcing is not about handing off manufacturing responsibility and underperforming assets to reap cost improvement gains. Today's tough business climate has exposed many weaknesses in such assumptions. More than ever, such outsourcing relationships should be focused on strategic outcomes that will enhance the

Sidebar 5: Top 5 Strategic Questions for EMSs and ODMs—and Why They Matter

1. Are you truly moving into value-added services or are you still just building?

Why this matters: As OEMs look to build deeper relationships with their partners, they increasingly are gravitating toward EMSs and ODMs that have a more compelling value proposition than just lower-cost goods. Providers that have recognized this early and have developed value added services—such as direct-to-customer delivery, repair, or product design—are already ahead of the game. Those that haven't will find it difficult to catch up if they don't act soon.

2. Are your customers ready for manufacturing or fulfillment outsourcing?

Why this matters: In the late 1990s, as manufacturing outsourcing was gaining momentum, EMSs and ODMs alike were focused on increasing revenues and structuring contracts that varied immensely from customer to customer, creating process inequities that resulted in inefficiencies and the EMSs inability to meet their customer's needs. In today's world, EMSs and ODMs have become more discerning in the partners that they work with, looking for situations that are more conducive to effective outsourcing. One of the key EMS interests is the OEM's organizational readiness for outsourcing, the viability of products in an outsourcing environment, and the EMS's ability to round out manufacturing offerings with complementary services to provide the OEM with a well-rounded solution.

3. Are you focusing on shedding your enterprise of excessive operating costs to be more profitable and scalable?

Why this matters: EMSs and ODMs alike should consider alternatives that allow them to scale their operations and focus on core supply chain competencies. Clearly, the shift is to move manufacturing to lower costs parts of the world, but can more be done? SG&A costs are traditionally low, but the economic downturn caught several of the Tier 1 EMS's in the middle of such standardization, and SG&A percentages crept up. Could your company benefit from outsourcing its own non-core functions such as Human Resources, finance, Information Technology, or other back-office functions? By shedding non-core

functions, these complex enterprises may be more able to focus squarely on their core competency—namely, producing excellent products at the lowest possible cost. Likewise, with the industry's relatively high percentages of contract labor and the shifting of the workforce, can solutions such as eLearning and Enterprise Knowledge Management stem the tide of knowledge loss when these resources flow into and out of the organization.

4. Are outsourcing relationships optimized for both near-term and long-term successes?

Why this matters: Generally, optimizing in the nearer-term compromises the ability to compromise in the longer term. In the rush to outsourcing in the 1990s, many OEMs and outsourcing providers built the business case, and therefore operating models, based on certain assumptions about market stability and production volumes. Since then, both groups have had to work within the boundaries of the contract while adapting processes to changing business conditions. As a result, many contracts have not met expectations to deliver benefits, and some OEMs and EMSs have said that they would have been better off had they not done the deal in the first place. Regardless of business conditions, contracts should be constructed with a longer-term perspective that includes considerations for business cycles, product lifecycles, and continuous improvement incentives. Furthermore, EMSs and ODMs must choose carefully, for strategic, non-tactical reasons, those limitations the OEM imposes on the manufacturing provider such as manufacturing location and sourcing decisions.

5. Are you developing supply chain strategies with your customers?

Why this matters: To have complete integration and maximize efficiencies, collaboration must start at all stages—especially in the strategic phase. By doing so, all supply chain trading partners will share the same strategic vision, agree to a set of "rules of engagement," and ensure an efficient operating model. These three key success factors will help you achieve the ultimate goal: profitability.

supply chain and promote the business objectives of the OEM. It's incumbent on both parties to forge relationships leveraging the strengths of each, striving toward process and technology integration and shared perceptions of success. Such collaborative relationships, when focused

on adaptability, product capability and, of course, cost performance have a much better chance at succeeding in changing business conditions and throughout the product lifecycle than the more typical outsourcing arrangements have been able to deliver.

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About Accenture

Accenture is the world's leading management consulting and technology services company. Committed to delivering innovation, Accenture collaborates with its clients to help them realize their visions and create tangible value. With deep industry expertise, broad global resources and proven experience in consulting and outsourcing, Accenture can mobilize the right people, skills, alliances and technologies.

With more than 75,000 people in 47 countries, Accenture works with clients in nearly every major industry worldwide. Through the integration of consulting and outsourcing, Accenture:

- Identifies critical areas with potential for maximum business impact.
- Innovates and transforms the processes in those areas.
- Delivers performance improvements and lower operating costs by assuming responsibility for certain business functions or areas—and Accenture holds itself accountable for results.

Accenture generated net revenues of \$11.6 billion for the fiscal year ended August 31, 2002. Its home page is www.accenture.com.

The Accenture Supply Chain Management service line helps clients plan and implement new operating models to enhance revenue, reduce cost, and improve asset productivity and customer service. In particular, we combine our deep skills and leading-edge approaches in supply chain planning, manufacturing and design, procurement, fulfillment—and new models such as supply chain synchronization, outsourcing and supply chain value transformation—to dramatically improve our clients' overall competitive advantage.