

Trends In Procurement: A Perspective

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The nature of work in manufacturing industries competing and operating in global markets is changing. The expertise, world-view, and motivation of procurement specialists, together with strategically differentiated processes, remain the prerequisites to success.

The decomposition of the corporate core has meant that two trends dominate manufacturing, and especially the high-tech industry: vertical integration and increased specialization within companies. The first trend, vertical integration, tries to recoup the “do it all in-house” approach of the past. HP for example, used to manufacture all the required plastic enclosures, silicon chips, metal parts, and even screws for their measurement equipment. The second trend, increased specialization, is reflected in the continued outsourcing of noncore functions, eventually turning in-house overhead functions into stand-alone industries. Examples are software development,¹ chip design and manufacturing, final assembly, electronic circuit board assembly, commercial real estate, and logistics.² Based on the premise that it’s tough to be good at everything all at the same time, and that smaller, focused organizations will typically outperform larger firms, each of these internal activities has become its own industry. In effect, the high-tech industry personifies this horizontal division of labor, in which well-known brands working on separate aspects of a single value proposition capture revenue from the same customer sale. This article will discuss the impact of these trends on the procurement function and present a view on where procurement is going, illustrated with supply chain innovations at Hewlett-Packard Company.

Outsourcing Is Inevitably On the Rise

The principal driver of manufacturing outsourcing is asset management. An

outsourcing strategy removes manufacturing assets, like equipment and tools, from the corporate balance sheet. Moreover, it allowed cost-cutting companies to shrink payroll. This created a new industry, contract manufacturing (CM). The CM industry based its value proposition upon providing increased flexibility in manufacturing capacity. Stand-alone manufacturing companies could produce for less by leveraging their fixed costs over multiple customers. The reuse of resources lowered capacity risk and achieved larger efficiencies of scale. The same dynamic moved company-owned property, including specialized facilities (like factories and warehouses), off the books.

It is important to distinguish the meaningful supply chain evolution from those outsourcing phenomena that resulted from misguided management decisions. In the single-minded elimination of costly assets, some companies eventually outsourced critical processes, giving away (in)valuable intellectual property. The dismemberment of functional organizations pushed employee turnover, forcing further outsourcing, whether it made sense or not. Because it is almost impossible to bring the core competencies back in-house once they have been pushed outside the walls, a vicious cycle of hasty removal and disadvantageous dependency was initiated.³ Instead of cutting costs, key knowledge and

the power associated with intellectual property passed on to partners like contract manufacturers, tipping the balance of power that upholds a win-win partnership. A number of the new industry players, in their turn, chose to kick-start their growth by offering “turnkey” solutions at a premium. They are de facto recreating the vertical integration, which the high-tech industry is striving to overcome. This relapse undermines the true value proposition of what HP defines as a “value collaboration network” – in which the cooperation of specialized players allows a rapid and targeted response to customer needs – at a lower total cost.

The real value of outsourcing is clearly the ability to combine the power of several highly specialized contributions into a single, flexible, value proposition. Information technology and a global logistics infrastructure enable a separation into specialized industries. In this business environment, competitiveness is determined by the ability to maintain visibility and allocate activities to the players that are in the best position to execute. In order to be successful, each partner must achieve a favorable tradeoff between cost and responsiveness to customer needs. However, at this level of complexity, operational excellence is not easily attained.

Challenges

As companies focus on their core competencies by outsourcing, increased attention is demanded by the “extended enterprise” – the network of specialized partners, which contribute to a company’s value proposition. Communication between the nodes in this network not only provides visibility of the end-to-end supply chain but, more

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subtly, creates a common understanding of how local events must relate to the needs of the market. Coordination is thus a prerequisite for successful outsourcing.

To summarize, the first and most critical challenge is the creation of a common language, together with a focus on exception processes.

The second challenge is how to transfer the pertinent information between players. In this point it is worth mentioning that although technology plays an obvious role in information-processing, it is merely an enabler. Experience has made abundantly clear that success is only possible when processes and people are in the driver's seat.

A third challenge is to build meaningfully upon existing investments in the network. In this day and age of lockstep, proprietary IT systems, one should not overlook the agony of a smaller supplier struggling to work with multiple, incompatible transaction protocols. The demands of proliferating data formats can be overwhelming and a drain on the local return.

A fourth challenge is to expand the existing infrastructure in order to create a flexible and responsive logistics and distribution network. The latter requires proven processes built by the network itself that leverage – instead of being dictated by the functionality of – common, off-the-shelf platforms. Typically, system adaptation can only be accomplished incrementally.⁴

A final challenge to the entire network is to continuously adapt to changing business situations. With their short lifecycles the supply chains of high-tech parts like hard-disk drives are being constantly reconfigured, as are the exceptions that occur in the extended enterprise. Coupled with the highly dynamic, almost fashion-like market preferences of many high-tech products, the challenges to successful outsourcing can be daunting.

What Does This Mean for Procurement?

As dramatic as the evolution has been, HP has faced the challenges of outsourcing for years. One of the consequences any outsourced company will see is that an ever-higher proportion of procurement

dollars (computed as a percentage of revenue) are now part of the game. Because companies are now buying more complex items and services, procurement has been transformed into an increasingly critical function. Not only do enterprises procure more, they also have the opportunity to create better leverage of procured parts, products, and services. Dynamics similar to the horizontal functions mentioned previously suggest that procurement will also become its own industry.⁵ Simply stated, the main value proposition of procurement is to leverage the size (buy power) of an enterprise, its access to technology, together with established personal and contractual relationships to capture the value of preferential treatment. Preferential treatment can be “collected” in the form of lower prices, better availability, or the assignment of more skilled staff.

Maintaining the advantage of preferred customer status in a progressively outsourced, and thus fragmented, enterprise is a challenge that HP has met by developing specialized buy-sell services. Buy-sell services allow the company to outsource the physical management and assembly of products, without losing control of financial flows. In this context, suppliers drop-ship their parts to the contract manufacturer or partner, eliminating the need for HP to touch the material flow. In the meantime, buy-sell services maintain the relationship with suppliers, and ensure that the terms to which the sale was negotiated were actually executed. In particular, in any transaction involving outsourced functions, the procurement specialist ensures that the sale is concluded at the price to which the corporation is entitled. The process is highly automated and sophisticated, to include functions like tax optimization, price-masking, and supplier split management. No doubt this service comes at a cost, but the return in better pricing, terms, conditions, and risk mitigation more than offset the cost for many parts. Computed on an annual basis, a typical return on investment (including setup costs and IT investments) of over 8-to-1 was achieved.

The buy-sell process is applied with a

disciplined and differentiated strategy. Because not all parts are equal in their importance, the buy-sell procedure covers about 20 percent of the inbound supply chain parts, which means that these critical parts are proactively managed. The next tier, which comes to approximately 50 percent of inbound parts, is merely audited, comparing the price received from the CM to the price entitlement. This costed bill of materials – called eBOM – collects funds or withholds a premium, depending on whether the audit discovers a mismatch or not. All other parts do not warrant the cost of audits⁶ because HP doesn't believe it can outperform its partners, and so they are acquired through turnkey processes from partners. Effectively, the buy-sell relationship focuses on the most valuable parts, or unique supplier relationships, while audited eBOM parts are typically board-loadable components, leaving the rest to be handled by qualified partners. Successful execution of this differentiated strategy depends upon the quality of market data, as well as the ability to constantly monitor that data.

The fact that sourcing is a truly global activity is a second aspect of how it adds value to the extended enterprise. IT and logistics capabilities allow procurement to create geographically fluid sourcing, where material flows can adapt dynamically to business and legal requirements. This, in turn, creates significant financial flexibility for corporations, derived from the capture of regional tax and duty advantages. That is, although the parts are sourced globally, by choosing the procurement location shrewdly, companies not only optimize material cost, but also their tax and duty exposure.

To cite a third example of how its scope has broadened, HP's sourcing activities now extend to engineering in order to solve supply chain problems. The opportunity to generate revenue by licensing intellectual property – one example being the revenue captured from patents on cooling systems for Itanium chips – arose from routine sourcing work in the extended supply chain.

R&D is another internal function has not

escaped the overall tendency towards increased specialization. Procurement of product design from outside the enterprise, in spite of the rigorous procurement processes it requires, is on the rise. This trend is reflected in a move from working with contract manufacturers (CMs) increasingly toward original design manufacturers (ODMs).⁷ While the ODM occupies a kind of middle ground between increased specialization and a fully-integrated solution, the unbundling of design, manufacturing, and logistics intensifies both the involvement and value added by procurement. Sourcing process management is another expansion of procurement's overall value proposition. HP believes that increased specialization and unbundling will provide strategic advantage to all partners involved.

Procurement at HP

Procurement at HP is one of the best illustrations of how the company has responded to the most important trends in the high-tech manufacturing industry. Procurement combines a global reach with a local focus. Most important, procurement acts as the glue that holds the extended supply chain together.

As described in the last section, buy-sell is not a one-size-fits-all approach for all procured parts. Instead, it segments the procured commodities according to value, supplier relationships, and procurement leverage before allocating each part to either the buy-sell model, costed BOM analysis (audit), or turnkey solutions from partners.

In general, procurement focuses on commodities where price confidentiality is a business need. As a result, the procurement team monitors and influences financial flow across the entire extended supply chain and necessarily impacts the cash-to-cash cycle of the partners involved. The fact that the dollar volume involved in these transactions is constrained implies that there is a minimum volume needed to be able to justify the cost of execution and its impact on all parties involved. Due to the large number of internal organizations and wide range of products it

supports, procurement at HP necessarily has to deal with different business strategies. Varying demands made on execution range from those organizations that pool the risk of holding inventory in supplier hubs versus those that prefer direct shipment to the point of use. These differences require specialization not only in the commodity markets and enabling IT systems, but also in the execution and logistics of materials procurement. Finally, an expertise in legal aspects and geography is a key requirement, so that neither additional cost nor delivery uncertainty becomes an issue:

“Our people really need to know the legal feasibility and the local environments seen with all its holistic boundary conditions. The climate is getting more complex, even as the clients are demanding more speed. Knowledge and specialization are key.”

— supply chain execution manager,
April 9, 2003

Local focus is not enough; procurement specialists touch global supply chains in a multitude of ways. In one example, procurement at HP manages suppliers in other regions directly through IT systems. This is especially important if the local relationship is a critical success factor. Occasionally, the dynamics of a globally dispersed procurement network, one that takes advantage of local opportunities, will deny the request of a receiving partner to maintain proximity to the procurement team. Yet, justifications for “remote control” include the elimination of supply chain delays from long and volatile lead times, thus minimizing total cost. Because of these trade-offs and sensitivities, it is critical to procurement's success that its people know how to work on systems around the globe. This technical prowess, combined with an international perspective, enables the exploitation of variations in tax and duty regulations around the globe. Without a thorough understanding of the end-to-end supply chain implications, benefits like these, which directly impact the bottom line, would be lost.

At all levels, people are critical to the

success of the evolving procurement business model. In terms of the internal organization, a dispersed network makes sense at HP because of the leverage and worldwide reuse of proven processes developed by local teams. Additional leverage comes from nearly identical metrics, like the same business fundamentals and the same scorecards – delivery performance and turnaround time. The staff responsible for execution are specialists for the commodities they handle, and as a group they function as a cost center. Both organizational and technical expertise is the competitive differentiator for meeting part needs. Using sophisticated risk-management techniques, assurance of price and hedging against volatility in markets is one of the special services on offer. This requires not only deep expertise in markets, but the ability to structure relationships with market players in order to execute the strategies of an end-to-end supply chain. Viewed from this perspective, the team is doing much more than reducing material cost or creating procurement leverage for the company.

Manufacturing industries have seen a progressive distillation of their systems of work: Whereas decades ago the brawn of employees used to make things out of raw materials, today their brains and judgment are managing complex activities across dispersed supply chains, from a “control tower” perspective. Consequently, the majority of employees are no longer blue-collar workers, nor even transactional clerks, but networks of engineer-scientists that design, optimize, and deliver value. The job enrichment of individual contributors is inescapable. A European supervisor tells of the importance of the personal engagement behind the innovation:

“The real problem is how to motivate your people. Money and salary are not enough today. Maybe we should be giving them more responsibility and enrich their jobs. We have to turn their environments into incentives for performance. I see my role not in a typical hierarchy, but as the coach to my people. I see my people as my customer. This should be a motivation to them to stay with HP. I think we

work in a very challenging, interesting environment. I learn something new almost every day."

To conclude with a revealing anecdote: The recent colossal HP-Compaq merger brought a triumph to HP's buy-sell process by allowing an empirical test (at the largest possible scale) of its value proposition. Passing that test has set a benchmark for one of the most important players in the high-tech manufacturing industry.

Results (FY2002)

The numbers round out the story. Procurement achieved an average of 10 percent savings in sourcing with a maximum of 40 percent. Additionally, the combined programs yielded a 300 percent improvement in cost recovery on excess inventory. Incremental benefits were an increase in inventory turns, up from 11 to 24 percent, a 50 percent reduction in PO cycle-time, and a 30 percent increase in buyer productivity. Part of the benefit is its broad use: 17 HP organizations, 120-plus trading partners, and 400-plus users. Although these programs required a substantial investment, the program was self-funding in the first year due to volume efficiencies. Intangible benefits achieved by procurement at HP included:

- The protection of HP's strategic commodity pricing
- Enabling HP businesses to execute significant tax opportunities
- Leveraging existing (proven) processes across the global corporation
- Control of volume splits among suppliers
- Providing a solution to rebalance inventory between competing factories
- Global presence for procurement, engineering, and factory management (alleviates time zone, language, and currency barriers)

- Ensuring fair material allocation during market shortages, thus protecting product lifecycles
- Optimizing cash-to-cash cycle via improved supplier collections
- Accelerating time-to-revenue, supporting market recovery and competitive advantage
- Reducing warranty costs by proactively managing the design into manufacturing
- Protecting quality and brand across partners
- Did we mention reducing material costs?

Conclusion

The nature of work in manufacturing industries competing and operating in global markets is changing. The decomposition of the corporate core has removed traditionally in-house functions from the enterprise and, together with their asset burdens, passed them on to stand-alone companies. These specialized new industries have become partners in delivering value to customers. Embedded in increasingly specialized organizations, our industrial society of engineer-scientists can only perform if the "glue" of procurement connects its supply chains. In order to execute well, specialization in a complex extended enterprise requires modular design and standard interfaces.

Standardization, in turn, is enabled by information technology and logistics capabilities, and allows for smaller, more focused organizations. The expertise, world-view, and motivation of procurement specialists, together with strategically differentiated processes, remain the prerequisites to success. As long as the cost of interfacing doesn't outweigh economies of scale, specialization is likely to accelerate, although in the long run its scope is not unlimited and can yield diminishing returns. HP is a proven leader in supply

chain innovation and is on the forefront of turning its value collaboration network – enabled by world-class procurement⁸ teams – into profitable reality. ■

Endnotes

- 1 See, for example, Steve Lane on the Aberdeen Research Report, Offshore Software Outsourcing Best Practices; 2003 http://www.aberdeen.com/ab_company/hot-topics/interview/09-04Lane.htm
- 2 2003 Aberdeen group: "In an otherwise stagnant IT industry, business process outsourcing stands out due to its rapid growth rates and adoption curve. Valued today at \$187 billion, the BPO market is growing at a 13 percent compound annual growth rate (CAGR) and is forecast to be a \$248 billion market by 2005 – making it one of the largest market segments in IT."
- 3 An example of a best practice is HP's Imaging and Printing Technology Platforms. This organization continuously evaluates the value added by "solution component" and the competitiveness of the partners: Stephen Nigro, HP Inkjet Co-Development Strategy Evolution, CoDev, Management Roundtable and PDMA, Scottsdale Arizona, January 27-29, 2003.
- 4 See, for example, Don Schmickrath, "How Do Caterpillars Learn to Fly?: Transforming Supply Chains at Hewlett-Packard," Supply Chain Management Review, Winter 2000, pp 22-34.
- 5 The Aberdeen Group created a "cookbook" for outsourcing of procurement: "You Will Outsource Procurement: Here's Why and How," October 2002.
- 6 2002, HP was featured in EBNews.com for innovations in procurement risk management, <http://www.ebnews.com/story/OEG20020919S0063>. 2001, HP was featured in *Purchasing Magazine* for Excellence in Materials Cost Management.
- 7 A transition like this suggests that design will also become its own industry.
- 8 HP's supply chain collaboration practices have been selected as an industry best practice by a European industry consortium, dialogue with Professor Corsten, Vize-Direktor, Institut für Technologie Management, Universität St. Gallen, CH, April 2003.