Project Management/ *Jim Ayers*

Is Supply Chain Management the Same as ERP?

Innovation in the supply chain puts new demands on information systems and the people who develop and manage them. Making information systems work to improve supply chains is an important SCM skill. But, putting technology ahead of strategic design and operational requirements is a frequent shortcoming. Consequently much effort is wasted or even counterproductive.

Systems issues present some monumental challenges to senior managers. The reasons are many. Senior managers "may not have a clue" about their needs for systems, the capabilities of information technologies, or how to implement the technology. They have only a hazy awareness of how computers work and what infrastructure capability like networks provides. Consequently, these managers are often at the mercy of their technical departments and software marketers. Or, their lack of knowledge leads to indecision.

Another influential factor is the constant barrage of stories of computer projects run amuck. Many war stories recount foul-

Jim Ayers is a principal with CGR Management Consultants in Playa del Rey, CA. He can be reached at (310) 822-6720 or jimayers@compuserve.com.

ups costing tens of millions. In fact, some companies implement high-cost systems only to "unplug" them when they don't work. *The Wall Street Journal* recounted a flurry of such horror stories brought to light through lawsuits and visible corporate miscues.[1] Among the incidents reported in a single article were the following:

- Whirlpool, the appliance maker, having troubles shipping product due to high demand and conversion to SAP software
- W.L. Gore & Associates, the water-resistant fabric maker, suing Peoplesoft, Deloitte Consulting, and others over a botched installation of new systems
- a quickly implemented SAP ERP system keeping candy maker Hershey from delivering its products to meet the peak Halloween demand — despite having plenty of inventory
- Allied Waste Management, a service company, pulling the plug after spending $45 million on a $250 million SAP system

Of course, many organizations have completed large systems projects with better success than that described above. And often the fault is as much that of the craftsmen as it is of the tools.

The examples cite the application category called ERP. ERP

systems automate "back office" operations. The back office consists of the many transactions fundamental to the business. Examples are personnel records, booking sales, and ordering materials. In the late 1990s, the need to address "Y2K" risks motivated many of these efforts. Older "legacy" systems built around the needs of individual departments were not ready for the new millennium.

We predict the next "drivers" for systems improvements will be getting strategic value out of systems to improve the supply chain. Those who have implemented new systems will look for ways to capitalize on their investments and exploit technology for competitive reasons. Frequently cited examples include E-commerce capability, electronic links along the supply chain, reducing inventory, exploiting databases for customer information, and otherwise increasing the role of technology in customer interfaces.

This column describes the wide and fragmented supply chain information landscape. We do it lightly, acknowledging that there are multiple sources for more detailed information. This is also a landscape with "blurry" boundaries between categories of applications. Hardly a week passes when we don't hear about a new acronym or "revolutionary" tool in the

domain of supply chain systems. Unless one closely follows the technology, he or she can be excused for being confused. Describing each and every application category would require more space than we have available. So we'll confine our descriptions to what we believe are the major categories.

Supply chain applications

The Council of Logistics Management (CLM), in conjunction with Andersen Consulting, maintains an "inventory" of supply chain applications. Its list of software in a CD format describes over 1200 application packages.[2] To find the right fit for his or her business, the user can select from the many categories shown in Exhibit 1.

Typically, any listed package will include several of the functions shown in Exhibit 1. Indeed, some packages claim to have them all. Herein lies a problem. One has to decide which features are most important to his or her business. He or she then has to decide how well each candidate package supports the need. Packages will undoubtedly be stronger or weaker in an area. If you need a great traffic routing and scheduling capability, for exam-

ple, you will have to look closely at what each candidate package that provides this function. Some claiming to possess the functionality may, in fact, have it, but do it poorly.

When presented with a "short list" of candidate packages for implementation, we find that some clients — knowing there is an abundance of options — are uneasy with only a few alternatives. They realize that a software package selection could be a commitment for a decade or more. There's a suspicion that there might be a better solution out there beyond the shortlist presented. If the project doesn't go well, the selection team will shoulder the blame. To cover one's risk, they may believe, one must rummage through all 1200, or at least several hundred, to make sure the "right" choice is made. Of course, evaluating a single package is a time-consuming job, taking from one to three weeks for a diligent review. Imagine doing this for hundreds.

When it comes to the supply chain, this list — as comprehensive as it seems to be — is far from complete! Additional categories used by software suppliers, many of which have coalesced with the rise of SCM. They include SCM itself

(Supply Chain Management), ERP (Enterprise Resource Planning), CRM (Customer Relationship Management), PDM (Product Data Management), CRP (Capacity Requirements Planning), MES (Manufacturing Execution Systems), and APS (Advanced Planning & Scheduling).

Also, one must consider the possibility of what are called "bolt-ons." These are combinations of packages to cover a user's requirements. They are often developed when two cooperating package purveyors "integrate" their offerings. For example, the Hershey example above included ERP (by SAP AG of Germany), APS (by Manugistics, Inc. of the United States), and CRM (by Siebel Systems of the United States) applications. Another party, IBM, managed the effort. A trend is the consolidation of bolt-on package functionality — in the Hershey case, the CRM and APS — into core ERP systems.

In addition to applications, supply chain systems include the means of communicating among partners. Many supply chain partners, for example, use Electronic Data Interchange, or EDI. The Internet is the emerging technology of choice, and packages are in varying states of

Exhibit 1. *CLM Software Categories*		
Order processing	Stock/pallet location	Vehicle maintenance
Inventory control	Labor performance	Physical distribution system modeling
Inventory planning & forecasting	Material handling	Electronic data interchange
Distribution requirements planning	Transportation analysis	Warehouse management
Materials requirements planning	Traffic routing & scheduling	Promotions & deals
Purchasing	Freight rate maintenance & audit	Other functions

	Source	Excerpt
	Exhibit 2. *Claims by Information Technology Providers*	
A	ERP system marketer	"[Company] offers integrated Flow Manufacturing that enables dramatic benefits such as a 90 per cent reduction in cycle time, 50-90 per cent reduction in inventory and a dollar for dollar increase in working capital. These are all available with a low risk transition strategy"
B	Two software companies	"[Company 1] and [Company 2] have extended their relationship to offer customers a closed loop supply chain solution."
C	E-commerce provider	"[Company] is the leading provider of electronic commerce solutions that dynamically link buying and supplying organizations into real-time trading communities."
D	Supply chain software provider	"[Company] unveiled [product name], a new approach for demand-driven fulfillment that enables companies to anticipate and meet customer delivery expectations the first time, every time."
E	System integrator	"[Company] is a leader in industrial strength, e-business solutions for system and application response performance."
F	ERP systems provider	[Product name] allows people to harness the power of the Internet to work smarter, better and faster by optimizing supply chains, managing strategic relationships, reducing time to market, sharing virtual information, and increasing productivity and shareholder value."
G	Consulting firm	"[Company's] insight into the global consumer products complex from consumer to retailer to supplier, helps companies develop and implement winning strategies. The firm's thought leadership among retailers and consumer products companies has led to the transformation of entire industry sectors."
H	IT consulting firm	"[Company] is one of the most successful and fastest-growing IT consulting firms nationwide. [Company] is differentiated by its tradition of unsurpassed technology expertise; its strong track record of delivering; and its experienced, enthusiastic people – the best in the business."

"Internet-readiness." Another application category of software is EAI (Enterprise Application Integration) or "middleware." This category enables different applications to "talk to each other." This can be important both inside an organization and in managing a supply chain. Deploying middleware can bypass or delay investments in new applications.

We've indicated that understanding the benefits and risks of technology is a challenge for many. One would hope that system marketers would be helpful in this regard. Unfortunately, so called "solution providers" seldom emphasize clarity in their communications.

One might be excused if he or she concludes that this industry tends toward hyperbole. These companies have a large investment in product development, and each sale increases the return on that investment. So claims are often extraordinary. Descriptions of the results are vaguely worded superlatives replete with fuzzy multisyllable terms, like "transformation" or "integration."

However, there is no doubt that systems solve real problems. The claims made by Company A in Exhibit 2 are very similar to those made for TQM and JIT just a few years ago. In fact, the changes needed to achieve the benefits probably require both the software and non-software disciplines to gain the most from the system. Often, the preparation for the system is as important as the system itself. Cleaning up the data is a necessary prerequisite to successful system use. Company B reflects a trend among many software suppliers — that of combining forces to offer a "new" product from two or more old ones. Some computer publications caution that many of these alliances are marketing ploys; buyers beware![3]

References

1. Boudette, Neal E., Europe's SAP scrambles to stem big glitches, *The Wall Street Journal*, November 4, 1999, p. A25.
2. Haverly, Richard C. and Whelan, James F., *Logistics Software: 1998 Edition, Volume 1,* Council of Logistics Management. (Compact Disc format)
3. Slater, Derek, The ties that bolt, *CIO Magazine,* April 15, 1999.