

Photo courtesy of HighJump Software, a 3M Company



System Shoot-out

Determining a system's ability to support automatic data collection technologies is an important step in making the ERP/WMS decision.

Deciding whether an ERP module or best-of-breed WMS is right for you.

Which is the best solution for your warehouse or distribution center—the warehousing module of your company's enterprise resource planning (ERP) system, or a best-of-breed warehouse management system (WMS)? "The answer isn't necessarily clear-cut in many cases," notes Patti Satterfield, business development manager for Q4 Logistics, a designer and implementer of supply chain solutions headquartered in Santa Ana, Calif.

"Almost all ERP vendors claim to have a warehousing module today," she says, although it may be called a fulfillment or distribution module. And virtually all ERP vendors have some sort of inventory tracking capability.

"Whether this is enough to get the orders out the door is a different matter," Satterfield says. ERP vendors such as Oracle, SAP, JD Edwards, and JDA are "definitely growing," she reports, "and are cognizant of their weaknesses and trying to address them."

According to Chris Heim, president of HighJump Software, a 3M Company and supply chain execution solution provider based in Eden Prairie, Minn., "ERP warehousing modules have definitely gotten more mature and functionally rich, but there's still a gap between best-of-breed and ERP vendors."

If your operation works with full cases, full pallets, a low variety of stock keeping units (SKUs), and a relatively small workforce—as is the case for many manufacturers—"then the ERP warehousing module can do the job quite well," observes Marc Wulfraat, senior partner with KOM International, a global logistics and supply chain management consulting firm based in Montreal, Canada.

If yours is a more complex operation—for example, with broken case or split case picking, a large workforce, and a need for real-time optimization—then a best-of-breed warehouse management system may be your best bet, Wulfraat says.

He uses an analogy to illustrate: "If you're out to cut down a tree with a three-inch trunk, a handsaw works just fine; but if the trunk is three feet thick, you need a chain saw."

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Determining whether an ERP warehousing module is adequate or whether you need the robustness, functionality and flexibility of best-of-breed WMS begins with getting a realistic understanding of your functional requirements. Ask questions such as these:

Does the system have the functionality you need? ERP functionality can be light in important areas such as wave planning, inventory allocation, and picking techniques, Heim points out. In addition, Satterfield observes, "Some ERP modules don't do the best job of task interleaving."

How suited is the solution to the 'real world' of warehousing? A fundamental issue with ERP warehousing modules, according to Satterfield, is that most grew out of transaction-based logic, generally as part of a financial-based or order-based system. "Warehouse operations are not a nice, logical operation; however, many ERP modules assume it is a very linear, transaction-based environment," she says. In comparison, best-of-breed WMS vendors have focused on operational realities and the real-time interaction that happens in the warehouse.

How flexible is the system? Satterfield notes that WMS vendors have focused on delivering systems that are flexible, adaptable and offer multiple ways of doing things. "An ERP module can offer a solution for an issue, but there's one solution, and it may not be the optimal one." Depending on your operation, you may have to change your method or develop a workaround.

How frequently is the system upgraded? Best-of-breed warehouse management systems tend to be upgraded more frequently than an ERP warehousing module. "We see upgrades two or three times a year for some WMS vendors, while an ERP vendor may do an upgrade once a year, if that," Satterfield notes.

How large is your workforce? A best-of-breed WMS offers labor management functionality that may be overkill for a small workforce but absolutely necessary for an operation with several hundred people.

How robust is product tracking capability? Companies that don't have a complex product with a large range of SKUs may find the ERP sufficient, Satterfield says. An ERP warehouse module may be able to track limited product data, such as number, description, and one other piece of information. WMS vendors, however, generally have incorporated multiple fields to capture data such as expiration dates, serial numbers, and season codes.

How much real-time capability do you need? "Some ERP vendors are still paper-based, and don't necessarily support radio frequency technology in all of their functions," Satterfield notes. They also may not support voice technology.

How will the system work with RFID? If you're going to use RFID in the near future, look for a flexible system, Heim advises.

In addition, consider the impact that the data captured by RFID technology will have on your systems, Heim says. "There's an incredible amount of data. Most of the people I talk with want some level of filtering that occurs before you pass the data up to the ERP. Otherwise, the ERP may choke on it."

Do you have multiple locations within a warehouse? Some ERPs can't handle a SKU handled in multiple locations, even a warehouse within a warehouse.

"The ERP environment may require that multiple logical (virtual) warehouses be set up for costing or product segregation reasons. This requires constant warehouse transfers, which can be a real pain," Wulfraat points out. For businesses running multiple logical or real distribution centers, consider some of the better WMS

The Best of Both Worlds

Creative Memories, St. Cloud, Minn. is a direct selling organization that offers photo albums and accessories through 90,000 consultants worldwide. The company produces albums and album pages at manufacturing and distribution facilities located in St. Cloud, Sparks, Nev., and near Richmond, Va. Raw materials are used to create the finished goods, which are then moved into the warehouse.

The company uses the warehousing module of its ERP (SAP) to manage its raw materials and Warehouse Advantage™, an advanced WMS from HighJump Software, to manage warehouse operations.

Creative Memories included the ERP warehousing module when evaluating WMS options a few years ago, but decided to replace its legacy WMS with a best-of-breed solution. Kevin VanderMey, inventory control business analyst for the company, cites the reasons for the decision:

- **Additional flexibility of the WMS**
- **Ease of modification and maintenance**
- **Greater uptime**—with a heavy workload at the beginning and end of each month, Creative Memories couldn't afford to lose the time required to shut down the ERP for a weekend of maintenance

The Warehouse Advantage WMS interfaces with Creative Memories' pick-to-light system, carousels and conveyors. "It seemed that would be an easier solution than having the ERP communicate with the subsystems," VanderMey observes.

Creative Memories went live with the HighJump WMS at its St. Cloud facility in July 2003, in Sparks in June 2004, and in Richmond in September of this year. Once the three operations are stable, the company may consider converting its raw materials from the ERP to the WMS, VanderMey says.

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applications which enable a single software installation to control all operations.

Do you need compliance labeling functionality? Some ERP warehouse modules don't have the required functionality for complying with customers' labeling requirements, Satterfield notes. "If you're shipping to a customer that requires a certain type of label, that can be a major issue."

How important are value-added services? If required, check whether the system can handle value-added services such as kitting, customization, or gift wrap. "Some ERP warehouse modules don't provide that type of functionality," Satterfield says.

Doing your homework

As you're evaluating potential systems, do a full gap analysis of each system's functionality, Satterfield recommends. "If your ERP has a warehouse module, definitely include it in your evaluation, but make sure you're comparing it apples-to-apples with everybody else," she recommends. "And use the 'show-me' approach, asking the vendor to prove the functionality to you."

To do justice to the process, make sure you do your homework and document the important requirements to run the business. Test-drive the software—get on the keyboard yourself and make sure the software actually works. Always create scripted scenarios and have the vendor follow through your processes.

One of the ways to approach the WMS/ERP question, Satterfield says, is by considering functional fit and operational effectiveness. "From a functional fit standpoint, what modifications will be required to conduct general business today or in the future?" From an operational effectiveness point of view, she asks, "what do you need to give up if you're going to stick with an ERP? What are you willing to spend if you decide to go with a best-of-breed WMS?"

The answers will be different for every company, she says. "Often, the decision comes down to the return on investment—

what is the company willing to spend year after year because they don't have some specific functionality in their warehouse package? Are they willing to work around a problem for the next few years until an upgrade comes out? Is their customer service going to suffer at all from the system decision?"

Make sure that you're including all the costs for both ERP and WMS. Don't just look at the cost of the software, Heim urges. Consider total cost of ownership, including professional services, mainte-

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nance, upgrades and modifications.

In addition, "Make sure you understand hidden costs," Wulfraat advises. For example, using an ERP warehousing module may require installing middleware for real-time radio frequency-based transaction processing. "This is often an unanticipated cost for additional software, hardware and services," he points out.

As important as ROI is in making the system decision, there are other aspects to consider. "I think it comes down to an IT resourcing issue," Chris Heim says. For example, the chief information officer for a company that has just invested millions of dollars in an ERP system "can't go back and say it doesn't do everything," he says.

Satterfield traces much of the discussion surrounding the ERP-WMS decision to the ultimate decision-maker within the company:

- **Chief Financial Officer.** A lot of CFOs say, "we already own warehousing functionality as part of our ERP—why should we purchase a bolt-on, non-integrated WMS?"
- **Operations.** The operational folks are often looking for a depth of functionality, flexibility, and adaptability for the operation within the four walls of the warehouse. They may be looking for capability that they can't get from an ERP.
- **Information Technology.** Corporate IT opinion often lies between the operations and finance camps. The IT group's strengths, resources, past experience, and their willingness to potentially take on a new host system may influence the decision.

Wulfraat agrees that more than ROI often comes into play. "This type of decision often depends on the power base within the organization," he says. "If logistics is recognized as a vital competitive differentiator for the business or a core competency required to be profitable, then a best-of-breed WMS will almost always be the preferred solution. For other companies where the power base may be in finance, MIS or marketing, then ERP will likely be the strategic direction to simplify the IT infrastructure."

Because the ultimate decision-maker or powerful influencers are often not in operations, Wulfraat notes, it is especially important to develop the most convincing business case and to quantify the reasons for your selection. "Accountants don't want to hear anecdotal evidence, they want to know how the new system will affect the bottom line," Wulfraat says. 📌

Check out the new WERC publication, *Warehouse Management Systems Phase I: Assessment and Selection* in "Hot of the Press," page 9.