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Managing Supply Chain Strategies with Technology

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RFID could be economically viable by 2006

Retail, CPG companies will lead the way

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Radio frequency identification (RFID) is expensive and short on standards, but users should still evaluate the technology and begin limited pilots in their supply chain operations--where they could reduce costs 3% to 5%, and increase revenue 2% to 7% via improved inventory visibility.

Boston-based AMR Research Inc. has found that the Holy Grail of RFID--the five-cent tag--could arrive as early as 2006 if tag production volume hits 15 billion. But even if those economies of scale aren't reached, trials in the retail and consumer packaged goods (CPG) industries have shown that RFID pays off even at a higher price.

Tagging reusable items such as pallets, totes, shipping containers and even vehicles provides a significant return on investment (ROI) and the opportunity to amortize the cost of the tags over several years. Leading pallet provider Chep International has already begun tagging its 200 million pallets and containers.

The much ballyhooed Wal-Mart/Procter & Gamble field trial in Oklahoma is showing benefit at both the pallet and case levels for average market basket items costing $1.75.

Steve David, CIO of Cincinnati-based Procter & Gamble, believes there is a strong business case for RFID, and that these initial trials with re-usable items will pave the way for item-level tracking throughout the supply chain. "The infrastructure can be paid for today on pallets and cases," David says.

Item level tracking for low-cost goods won't be economically possible until tag costs fall, but for high-value items like apparel, music and video, consumer durables and electronics, even 30- or 40-cent tags can be cost justified.

Such tagging not only provides inventory visibility, but also cuts down on counterfeiting, theft and return merchandise fraud. In apparel alone, return merchandise fraud accounts for 2% to 4% of sales.

High-profile pilots at Prada and The Gap, as well as systems put in place through the U.K. Chipping of Good Initiative, have shown that these systems can work and provide a reasonable ROI.

The cost of RFID infrastructure (readers, software, etc.) can be high. AMR recommends starting with a limited project to cost justify the investment, then building out from there. Existing business applications also need to be able to handle the increase in real-time data that RFID systems provide.

"Users need to examine which portion of their business reflects a relevant need for low-cost RFID," says Sanjay Sarma, associate professor of mechanical engineering at MIT, Cambridge, Mass. "Every company does things slightly differently and every company has a

different sweet spot that may shift."

The Auto-ID Center at MIT is developing what it calls the Electronic Product Code (ePC), a serial ID that will link physical items to the Web via RFID tags. The Center also organized the Wal-Mart and other field trials.

A number of technology and application standards are under development, which should help the market in the long run. However, there are multiple standards, multiple tag frequencies, questions about co-existence of some of these initiatives, and conflicts over intellectual property rights surrounding the technology involved.

Users waiting for the perfect standard, though, may find themselves waiting forever. AMR suggests moving forward, but carefully evaluating technology vendors to see if they offer a migration path for emerging standards.

"Waiting until standards arrive in late 2003 or 2004 will mean that a steep learning curve will still be ahead for your organization," says AMR. "And there is still no guarantee that the standards will evolve that quickly. Organizations that wait too long may watch the competition, as well as potential savings, pass them by."

http://www.amrresearch.com/