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Wal-Mart's Radio-Tracked Inventory Hits Static



By **Gary McWilliams**

February 15, 2006 (Wall Street Journal) – Wal-Mart's Radio-Tracked Inventory Hits Static

Wal-Mart Stores Inc.'s next leap forward in ultra-efficient distribution is showing signs of fizzling.

A pioneer in low-cost practices widely copied by competitors, Wal-Mart has pushed its suppliers to use exotic radio-activated tags to chop labor and inventory costs anew. But tests using the tags aren't showing any savings, and suppliers forced to invest in the relatively expensive technology are grumbling.

- **The Issue:** Wal-Mart has pushed its suppliers to use RFID smart-tags on shipments to the giant retailer in hopes of cutting labor and inventory costs, but savings have been illusory.
- **The Background:** The retailer's costs are climbing faster than rivals'. Wal-Mart needs a new breakthrough to maintain its price advantage.
- **The Bottom Line:** Without a demonstrable return on investment soon, suppliers may reduce their involvement, crimping potential savings.

Wal-Mart once hoped to have up to 12 of its roughly 120 distribution centers using the Radio Frequency Identification, or RFID, technology by January 2006. But so far it has installed the technology at just five, plus 1,000 stores. Wal-Mart expects to add a further 400 stores this year.

The world's largest retailer needs another breakthrough in its logistics operations, the main driver of its pricing advantage. While its costs are still the industry's lowest, rivals such as Target Corp. and CVS Corp. are catching up. Wal-Mart's operating costs have risen sharply in recent years, blunting its edge. Expenses rose to an estimated 18.4% of sales in 2006, nearly two percentage points higher than in 2001. In contrast, expenses at Target and CVS rose less than one percentage point each from 2001 to 2005, to 21.8% and 19.7%, respectively.

Wal-Mart declined to make an executive available to comment on its RFID efforts. In response to questions about whether it was saving money with the technology, spokesman Kevin Gardner replied that the tags had improved product availability on store shelves and store managers worked more efficiently in replenishing inventories. "We look for our RFID expansion to build on these results," Mr. Gardner wrote in an email.

Manufacturers and retailers have long wanted an efficient way to track individual items from production to sale, and RFID seemed ideal for the task. RFID was to replace the 25-year-old bar-code technology printed on labels for everything from tubes of toothpaste to diamond rings. The bar codes help track inventory and can match a product to a price, but they lack the electronic tags' ability to store more detailed information -- such as the serial number of a product, the location of the factory that made it, and when it was made and when it was sold.

While the tagging of individual products is still years away, Wal-Mart began setting deadlines in 2003 for its suppliers to start using RFID tags on larger shipments. Since then, it has required its largest 600 suppliers to affix the smart tags to cases and pallets sent to Texas and Oklahoma, which have been the company's key test bed. An additional 700 suppliers soon will be added to the mandate.

When the technology works as envisioned, product data are transmitted from the computer chip inside the tag to electronic readers through radio waves. Products can be scanned remotely and in bulk quantities, while bar codes are more labor intensive because they must be scanned manually, one at a time. The tags are made by Intermecc Technologies Corp. and Motorola Corp.'s Symbol Technologies, among others, using chips from suppliers such as Texas Instruments Inc., Impinj Inc., and STMicroelectronics NV.

Wal-Mart is pushing the RFID technology on the idea it will increase efficiency and eventually save everyone money -- manufacturers as well as Wal-Mart. Yet as Wal-Mart searches for an answer to its rising costs, suppliers are saying RFID isn't it.

The current generation of RFID tags cost about 15 cents apiece while bar codes cost a fraction of a cent. Beyond the tags, suppliers have had to bear the cost of buying hardware -- readers, transponders, antennas -- and computer software to track and analyze the data. The suppliers have had to pay for additional programming to integrate that software with their current inventory and manufacturing applications. On top of that, suppliers say that instead of saving labor, RFID tagging actually takes more: While bar codes are printed on cases at the factory, because most manufacturers have yet to adopt RFID, those tags have to be put on by hand at the warehouse.

Suppliers are being careful not to publicly criticize a company that buys \$260 billion worth of products annually, but they say they don't expect any return on their RFID investments for years, if at all. Some say Wal-Mart hasn't achieved any savings, itself. Other retailers, including Target, Best Buy Co., and Albertson's, and the U.S. Department of Defense are also pursuing RFID projects and facing similar hurdles to finding cost savings.

The lack of any discernible return on investment has manufacturers pulling back. Last summer, VF Corp., the maker of Wrangler jeans and Nautica sportswear, curbed internal development efforts, concluding a payback wasn't on the horizon. "We'll let others drive the technology," says Martin Schneider, VF's recently named global chief information officer.

Another early supporter, Navin Chandaria, chief executive of LePage's 2000 Inc., began tagging a line of fireplace products in 2004 and committed \$2 million to outfit factories that served Wal-Mart. The project languished when Wal-Mart never expanded the program significantly beyond its original test facilities, says Mr. Chandaria. "We expected them to say, 'Guys we're moving forward.' But everything just fell between the cracks." Last year, he sold the product line to another company.

A Wal-Mart supplier, who doesn't want his company identified, laments the lack of any clear savings despite investments of \$200,000 and up a year. "It's a big black box with nothing out there for a return [on investment]. A lot of people, if given a true choice, would not be in it," he says of the mandate.

Raymond Blanchard, co-founder of TrueDemand Software Inc., a Los Gatos, Calif., company (www.tdemand.com) whose products analyze RFID data to help retailers improve delivery efficiency, says suppliers have told him they would have preferred to move more slowly in adopting the technology, using it only occasionally to identify opportunities for savings. "It doesn't make sense to tag everything," he says.

John Fontanella, a vice president at AMR Research Inc., a Boston firm that studies supply chains, counsels most businesses to wait for the development of off-the-shelf software that will make RFID easier and more

profitable to use. "The [RFID] payoff is reducing human labor and replacing it with technology. For most companies, there are no software applications that can even approach the problem like that," he says.

To some Wal-Mart suppliers, achieving a return on their investment comes second to keeping the retailer happy. Executives at Beaver Street Fisheries Inc., Blyth Inc.'s Blyth Wholesale Group and Thomasville Furniture Industries Inc., say they don't expect to recoup their RFID investments for several years. But each hopes the effort puts it in good stead with an important customer. "Do you want to risk the business by not being in the game?" asks Howard Stockdale, Beaver Street Fisheries' chief information officer.

Wal-Mart's slower-than-planned rollout has some RFID advocates revising their view of the technology's prospects.

More problems have come into play in recent years, including the high cost of retrofitting warehouses and stores with electronic readers, and consumer concerns that once the tags are on each item on a store's shelves -- from tubes of toothpaste to personal computers -- that they could be used to track individual buyers. Wal-Mart says it has already endorsed industry-backed guidelines for notifying consumers the tags are in use.

David Donnan, a manufacturing consultant and former president of radio-frequency-device maker Checkpoint Systems Inc., says the technology faces a Catch-22. To get the cost-per-tag down to an affordable level, every retail product would have to be tagged. But there is currently no financial justification for a manufacturer to tag every product, he says.

As a result, the enthusiastic announcements two years ago of new RFID pilot programs have become a wall of disappointed silence. Retailers are expected to move more cautiously in expanding their use of the technology. "They're not going to say, 'Stop' " to suppliers, says Mr. Donnan, "they'll say, 'Go slower.' "

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