

Why Wal-Mart Is Still Excited About RFID

Jeff Woods

With all the problems facing radio frequency identification, why is the largest company in the world staking its corporate reputation on such a risky technology? Because the potential benefits are huge and justify the risk.

WHAT YOU NEED TO KNOW

Although Wal-Mart has not fully declared its business case to the market, Gartner believes that it is pursuing some important business strategies with radio frequency identification. Suppliers to Wal-Mart should turn their focus from trying to find operational business cases for the use of RFID in their warehouses to how they can support and take advantage of these new business models. The five areas where Wal-Mart, and its suppliers, can benefit dramatically from RFID are:

- Scan-based trading and vendor-managed inventory
- Invoice reconciliation
- Vendor-managed store operations
- Reductions in industrywide levels of diverting
- Real-time operations management

Just because the operational business case for the use of RFID tags in warehouses never really materialized (Gartner never advocated this in the short term) doesn't mean that there is no business case for RFID in this supply chain. Organizations should review each of these business model innovations to determine whether these are legitimate business cases for them or customer requirements that will be forced on them.

ANALYSIS

Quite often, Gartner clients are overwhelmed by the number of challenges that have to be overcome to pursue a radio frequency identification (RFID) project. The costs are much higher than what people expect them to be. The standards are in terrible shape. The hardware and equipment are immature and do not perform as advertised. Privacy and security are an afterthought in most architecture plans for RFID deployment. The litany of reasons why RFID faces massive obstacles seems to go on forever. So, Gartner's clients quite often ask, quite fairly, "If there are all these problems with RFID, why is Wal-Mart so excited about RFID?" Our answer is because we think Wal-Mart sees some truly strategic ways to transform its business with this technology. However, we also caution that these business cases are not accessible to everyone or, potentially, anyone else.

Although Wal-Mart publicly acknowledges that it is pursuing RFID to improve its stock position at the store level and to experiment with new technologies, we think there are some other strategic possibilities that are not quite obvious and are definitely not publicly acknowledged. These business cases have been gathered through our discussions with many of the early adopters in the Wal-Mart "ecosystem," and although this is not every business case out there for the use of RFID in the consumer goods and retail supply chain, we believe these are the most-promising strategic business cases.

If you are a manufacturer supplying goods to Wal-Mart, you need to turn your RFID focus away from efforts to find internal operational business cases within your warehouse. You should begin to focus your efforts on building business strategies and technologies to be able to take advantage of these changes in business.

Invoice Reconciliation

Some of the most time-consuming and costly processes that retailers and consumer goods manufacturers engage in are invoice reconciliation, deduction management and performance

penalty management. In the early 1990s, leading retailers realized the real costs to them when manufacturers do not ship them goods as promised — in the right quantity, in the right configuration, at exactly the right time and correctly labeled. The retailers then began aggressively imposing penalties on manufacturers that do not comply with their rules. At first, although unpleasant, this led to significant changes, for the better, in the way the industry does business. However, the chargebacks and penalties have gotten out of hand, with both sides having built entire reconciliation departments — they are becoming a drag on costs instead of a performance-enhancing tool.

One of the big problems with the system is that the retailers are not required to maintain the "evidence" in a case when there is a penalty or deduction. For example, if a shipment shows up at a retailer, and the retailer decides that a case is missing, it will report that the shipment was out of compliance and should be penalized, and then the retailer will go ahead and consume the inventory. So, any evidence that the manufacturer could possibly use to show that it actually did ship the correct amount has already been consumed by the time the manufacturer hears of the problem.

RFID could help to solve this problem by providing serialized tracking of products. So, if a retailer reports to a manufacturer that a case is missing, the retailer would be obligated to say exactly which serial number is missing (or, alternatively, which serial numbers it received). Then, if the manufacturer ever sees this serial number showing up at the retailer, it will know that the mistake was actually the retailer's mistake. It isn't clear how many reconciliation disputes this would resolve, but it would certainly solve some. However, it is likely to be just a fraction of the overall number of deductions and performance penalties out there. So, this will be one example of a business case for RFID, but it will not, on its own, justify the cost of the tags.

Scan-Based Trading

Today, retailers pay for most of the goods they receive from suppliers when the goods arrive at the retailer's warehouse or store (if the shipment bypasses the warehouse). In addition, retailers have a number of relationships with preferred suppliers in which the suppliers will manage the inventory levels and replenishment activities at the retailer's warehouses. However, the retailer is generally in charge of triggering replenishments down to the store from the warehouse. Some retailers see parts of this relationship as too much work and would like to turn over responsibility for store-level vendor-managed inventory to the manufacturers. Additionally, if retailers are able to turn over the management of store-level inventory to the manufacturers, they can begin to make a good case that the manufacturer ought to own the inventory as well — and the retailer should only have to pay for inventory when it is purchased by the customer and scanned (called "scan-based trading," or SBT).

This would take billions of dollars of inventory off the books for many retailers, and this is so valuable to the retailers that they have expressed a willingness to trade certain other business conditions for SBT. For example, retailers might agree to pay for goods faster or give preferential treatment to manufacturers that agree to an SBT model. In addition, some manufacturers see replenishment and supply chain management as their core competencies, and their ability to control supply chain processes further and further down the supply chain and closer to the consumer ultimately enables them to differentiate their supply chain from their competitors' in ways that would be commoditized under a retailer-managed supply chain. So, there are powerful arguments for both sides of this relationship to pursue SBT, but it will take years before the business terms can ever be worked out across all categories.

One of the biggest stumbling blocks to SBT in the past has been that the retailer and the manufacturer could never agree on the status of inventory in the store. For this model to work, the manufacturer not only has to be responsible for ownership of the inventory, but it also has to commit to a service level to the retailer — such as all stock-keeping units will be in stock 100

percent of the time, and the manufacturer will agree to pay a penalty if there is ever an out-of-stock. The practice has been that the retailer would monitor performance of the supplier, report out-of-stock situations to the supplier and demand that penalties be paid. The problem was that the manufacturer would come back to the retailer and tell it that the goods were not out of stock — the inventory just wasn't on the shelf. So, the two sides couldn't trust each other enough to pursue this model.

RFID potentially gives retailers enough data about store-level inventory to enable this model to be pursued. This can be done without resorting to item-level tagging as well, because the customer scan data can still be collected with a bar code. However, the in-store inventory movement data could probably be captured with only case-level information. But even if this one technical problem is worked out, it will still take years before all of the other business conditions can be satisfied for mass-scale adoption of SBT.

Vendor-Managed Store Operations

One of the biggest problems facing Wal-Mart today is that, while it has spent considerable time and money on developing sophisticated store merchandising and marketing plans, store-level compliance with these plans remains troublesome. This is because of the considerable autonomy given to store and department managers in the organization.

We are beginning to see, however, that Wal-Mart might have a way of changing this. At the Baltimore EPC Symposium in 2004, Wal-Mart demonstrated a tool to allow manufacturers to monitor store-level compliance with agreed-on merchandising plans. So, for example, Wal-Mart and Procter & Gamble (P&G) demonstrated how a rollout of a new variety of Pantene shampoo might be handled under this model. Wal-Mart showed a Web-based query where a P&G account executive would log onto Wal-Mart's systems to see which stores were not in compliance with the point-of-purchase display program that both Wal-Mart and P&G had agreed to. Then, they showed the P&G account executive calling up the Wal-Mart category manager to inform him or her of the variances. Wal-Mart indicated that it wanted other suppliers to begin investigating how they could use this tool as well.

Although we don't think that just calling up the category manager is a terribly promising strategic change to the industry, we also don't think that it will take long for the manufacturers to begin proposing compliance penalties to Wal-Mart under the justification that Wal-Mart's lack of store compliance legitimately costs the manufacturers money. Where retailers typically impose "chargeback" penalties on manufacturers for process compliance failures on the part of manufacturers, we are calling the imposition of penalties on the retailer by the manufacturer a "chargeforward." We won't be shocked if Wal-Mart accepts these demands, because they would be real external financial penalties for store-level noncompliance that could be legitimately passed down to store managers, creating real incentives for compliance down to the store level, solving a significant problem in the industry.

Eliminates Diverting

Wal-Mart publicly states that it does not engage in diverting practices in the consumer goods industry, and it is widely believed that this is true. If this is the case, then Wal-Mart is placed at a competitive disadvantage by not participating in diverting. Therefore, if the use of RFID can reduce diverting, this has a net strategic advantage for Wal-Mart.

If the industry best practice for RFID data becomes for retailers to report serialized case information from store operations back to the manufacturer, it will then be possible for the manufacturers to match up these serial numbers with the retailers to which the product is shipped. When the selling retailer doesn't match the intended retailer, the manufacturer will know that product has been diverted. Although knowledge of diverting, in and of itself, will not eliminate

diverting, giving the manufacturers visibility to exactly what products were diverted and the transactions that took place underneath this will allow the manufacturers to take aggressive steps to curb diverting.

Analytics-Driven Retail Operations Management

By 2014, people will look back on the past 10 years of retailing, and few will conclude that it was RFID that changed the face of retailing. However, the overwhelming conclusion will be that the addition of technology to real-time operational decision making on the store floor did strategically change retailing — and there will be no denying that RFID was one of the key technologies that enabled retailers to put real-time operational decision support tools on the store floor.

In most cases today, the retail store floor is run with little more technology than a clipboard, a good pair of walking shoes and some basic computerized applications to assist in offline decision support. This is because no system has real-time data about the condition of the retail floor — its inventory, personnel, customers, fixtures, assets and equipment.

With RFID and other sensors, real-time data about the condition of the store can be fed into a system. Retailers will then be able to manage the operations of the store with real-time data about what's actually happening across the store. You'll still need a good pair of walking shoes to manage retail, but you'll also have a tablet-based computer that has real-time RFID and sales data to help you make decisions about what needs to be done. Your employees will also be equipped with tools that dispatch tasks and help manage work processes, based on the optimal allocation of the work that needs to be done and taking into account the real-time, real-world condition of the store.

Those retailers that aggressively pursue this vision will have higher sales per square foot, larger and better-run stores, and lower labor rates. In 10 years, this capability will separate the winners from the losers in retail in much the same way that aggressive adoption of category management and collaborative logistics technologies differentiated retailers during the past 10 years.

Key Issues

How can enterprises leverage supply chain management links with other business processes and applications?

Acronym Key

P&G	Procter & Gamble
RFID	radio frequency identification
SBT	scan-based trading

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