

Smart Video Systems Cut BOB Loss

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By Michael Garry

In the annals of law enforcement, there is said to be no such thing as the perfect crime. However, bottom-of-the-basket (BOB) theft may belie that notion.

If a shopper tries to steal a large bag of dog food by placing it at the bottom of the shopping cart, one of two things will occur: the theft will be successful; or the cashier will notice the dog food, the shopper will say she forgot it was there (which could be true), and the item will be scanned and paid for. Though the shopper's intent may have been to steal, it can't be proved: thus, the perfect crime.

BOB loss has indeed been a longtime dilemma for supermarket operators. According to Evolution Robotics Retail, BOB loss averages \$10 per lane per day, numbers that can significantly impact the low-margin supermarket business.

But it now appears that technology is catching up with the problem as at least two intelligent video systems have demonstrated an ability to cut BOB loss. One, the LaneHawk system, is installed in more than 1,000 stores in just under 10,000 lanes, maker Evolution Robotics Retail announced in February; another 2,500 stores are under contract to install LaneHawk, the company said. The other system, StopLift, is used by 47 Big Y Foods stores and some stores operated by Hannaford Bros. and Safeway, as well as chain-wide at several other retailers that have not been identified, the company said.

The retailers that have acknowledged using LaneHawk include Giant Eagle, A&P (in its Pathmark division), Shoppers Food & Pharmacy, ShopRite and Haug Enterprises (a Supervalu franchise operator). Five other major food retailers have the system running in their stores but have declined to be identified, said Evolution Robotics, based in Pasadena, Calif.

LaneHawk consists of an image-recognition camera that is installed near the floor of the checkout lane, with a direct view of the bottom of the shopping cart. When a product appears, the system identifies it in real time using Evolution Robotics' VIPR (visual pattern recognition) technology, which compares the captured image to those in a store database.

The item's UPC information is immediately sent via an Ethernet connection to the POS system and appears on the POS monitor, compelling the cashier to act on it for the transaction to proceed. The cashier verifies with the shopper that the item was found and either incorporates it into the transaction or clears the item and removes it from the sale. If an item is not identified, the cashier is still alerted that something was observed and needs to be accounted for.

Seven ShopRite stores operated by five members of the Wakefern Food Corp. grocery wholesale cooperative, Elizabeth, N.J., are using LaneHawk in all checkout lanes, according to Alan Aront, Wakefern's

vice president for IT. (He declined to name the members.) Another 30 to 35 stores, some operated by the same five members, some by other members, are in the process of installing the system, he said.

Wakefern, in conjunction with its members, conducted an evaluation of the system in four of the seven stores from October 2008 through March 2009, and in August 2009 declared it "a certified tool" that its members could use and that Wakefern would support, said Aront.

During this period, Wakefern upgraded the POS system in all of the 262 ShopRite and PriceRite stores it serves from the IBM 4690 SA system to the IBM ACE system, a process that concluded last month. The four pilot stores were repiloted under the ACE system, and another three stores, equipped with ACE, installed LaneHawk this past February.

During the four-store pilot, Wakefern initially conducted a study to determine the amount of shrink attributed to BOB loss, which was found to be "substantial," said Aront. "We then challenged LaneHawk to recapture enough lost BOB sales to generate an ROI for the system in under one year." The system proceeded to stop about 70% of the BOB loss that was taking place, producing an average ROI of 9.5 months, he said, declining to provide the cost of the system. "We believe the system will improve as we fine-tune it."

The ShopRite stores have configured the LaneHawk system so that a front-end manager has to approve any decision by a cashier to bypass an item identified as being in the bottom of the basket. "So even if the cashier wants to bypass the item, she can't on her own," Aront said.

One of the "soft benefits" of the system, Aront said, is that it prevents cashiers from misidentifying a BOB item, and entering the UPC of an item of lesser value, such as regular bottled water rather than spring water. "We also saw customer behavior start to change," he added. "Now that they knew we were capturing information, they were more likely to advise the cashier [of a BOB item] or put it up on the belt."

A DIFFERENT APPROACH

Big Y, Springfield, Mass., has taken a different approach to stopping BOB loss, using a service from StopLift Checkout Vision Systems, Cambridge, Mass., that analyzes video feeds from existing overhead cameras to determine whether BOB as well as middle-of-the-basket (MOB) items are not being scanned. What drew Big Y to StopLift rather than LaneHawk is that StopLift is also designed to detect movements by cashiers that indicate inadvertent miscans or deliberate attempts to avoid scanning items, also known as sweethearting, said Mark Gaudette, Big Y's director of loss prevention.

Video Cuts Losses

But the StopLift system, which was installed in 47 of Big Y's 57 stores last year, does not report BOB activity in real time, as LaneHawk does. Instead, video feeds are sent overnight to StopLift, which analyzes the visual data and sends reports to Big Y's headquarters the next day. The chain's loss prevention executives study the results over a seven-day period and alert store managers about front-end activity that needs to be addressed, explained Gaudette.

"We're not as concerned about getting real-time information as in solving the BOB problem," said Gaudette. By providing visual evidence of which cashiers were experiencing the most BOB loss, the StopLift system enabled store managers to train them on proper procedures, as well as increase the awareness of front-end supervisors and clerks.

Since the installation of StopLift, the chain has experienced a 52% reduction in BOB events "and the trend line is still presently heading steeply down," said Gaudette. Overall, Big Y's shrink declined 6.5% last year, generating a nine month ROI for the system, he said, declining to cite its cost.

Another result of the attention focused on BOB at Big Y was that the chain decided to install a small mirror on a light pole above each lane that allows cashiers to see the bottom of the basket. The mirrors, which cost about \$600 in total, reduced BOB loss in a test store, and Big Y is now installing them chainwide, said Gaudette.

See photos of the two BOB systems – go to supermarketnews.com/technology