3xLOGIC

Business Intelligence Software for Retail

Reducing Shrink and Much More

"Retail shrink around the globe reached in excess of $128 Billion in 2014," while loss prevention staff numbers are flat or are even declining.

--Global Retail Theft Barometer

Retailers, like most businesses, are attempting to do more with less in an effort to increase competitiveness and profitability. Hardest hit have been corporate support organizations (Target and Best Buy are recent high-profile examples) where corporate loss prevention personnel who specialize in identifying and investigating corporate shrink typically reside. These developments, combined with growing shrink numbers, are further exacerbated by decreasing employee loyalty due to the fact that many retailers have reduced employees' weekly hours. This has resulted in some employers increasing their number of part-time employees by up to 30 percent or more. In fact, the Bureau of Labor Statistics estimates the number of involuntary part-time workers nearly doubled from 2006 to 2013 and that trend seems to be continuing.

The State of the Market Today: Trying to Do More with Fewer People

Retail employees now frequently have to juggle multiple jobs to earn the same income, further impacting already-low employee loyalty. This has created a perfect storm: Fewer people to oversee a greater number of people who have relatively low-wage jobs and less than stellar loyalty to their employer. Is it any wonder that upwards to 50% of retail shrink is internal? Employees stealing from their company—the type of theft that isn't opportunistic like most shoplifting—is chronic, and happening over and over again.

The focus for retail loss prevention tools is on return on investment (ROI) to be sure, but just as important they must demonstrate a return on time invested (ROTI) as well. That is, if I spend an hour using this tool it will be more productive than an hour using traditional approaches and tools. Also, the better, newer tools must be able to capture and apply the insights of those few LP specialists and then make the results available for use to a wider audience within the company. Some retailers outsource this function to companies whose employees will have little insight into the company itself. This means the best loss prevention tools have to be intuitive and easy enough to use for just about anyone. Employee theft that originates at the register is a huge and persistent problem. Employee theft generally makes up nearly 50% of the loss in any retail operation, and some retailers contend theft by employees makes up 80% of their total loss. This means that day in and day out a single employee can steal from an employer using the same methods, if undetected, and losses exceeding thousands of dollars are not uncommon.

According to 24 major retailers with 18,518 stores and over $589 billion in retail sales, at least one million shoplifters and dishonest employees were apprehended during a recent year.

-- Jack L. Hayes International's 24th Annual Retail Theft Survey

Therefore, catching a single dishonest employee generally has a greater impact on shrink than catching several shoplifters who may only steal opportunistically once or twice from that retailer. The sooner a company can identify and remove these employees, the greater the impact on reducing shrink. A Loss Prevention (LP) Manager recently told me about an employee who was doing item returns for cash and started out stealing eight dollars on their first night. Later on, by the end of a one-month period, when the employee was finally caught he was doing over $600 a day, for a total loss of $18,000 dollars—certainly not pocket change. The employee is now in jail, but the retailer is out the $18,000. Think about a company that has 1,500 stores across the country. Now, imagine only 1% of the stores have dishonest employees like Mr. $18,000. Such a scenario could cost the retailer $270,000…in just one month!

Going Beyond Video Review to Implement Business Intelligence Analysis

While a number of companies have specialized for some time in tools to help identify suspect transactions, the new focus needs to be on how to not only identify a suspect individual transaction but on a comprehensive, data-driven method to identify employees who are the worst offenders—by company, region, division, store. All retailers have learned over time which type of Point of Sale (POS) transaction or combinations of transactions may indicate employee theft in their stores. Typically, retailers will have 20-30 types of transactions (cancel followed by… or no sale followed by… or excessive returns, etc.). Of the 20-30 transaction types, some are much more likely to be theft.

3xLOGIC's Cloud-based VIGIL Trends business intelligence solution uses algorithms to identify top offenders by assigning a weight to each type of transaction or exception (giving higher weights to transactions with higher potential for theft), so that chronic offenders visibly bubble to the top of the list for each transaction (or exception) monitored. VIGIL Trends combines this with a straightforward and

quick way to review all transactions and the associated video, increasing the effectiveness of the trained loss prevention professional and also provides a tool where regional managers and others can easily get involved and contribute to reducing shrink. This sounds great, but what's happening in the actual stores?

A recent Aberdeen Group study indicated that 45% of retailers struggle to get timely data and only 26% of retailers have implemented any exception reporting program like those described above. Since Big Data management tools that deliver timely data are increasingly available, and there is minimal capital investment to implement a cloud-based Big Data exception reporting solution, we expect the percentage of retailers who implement such reporting systems to greatly increase over next few years.

Business Intelligence in Action—Three Mini Retail Case Studies

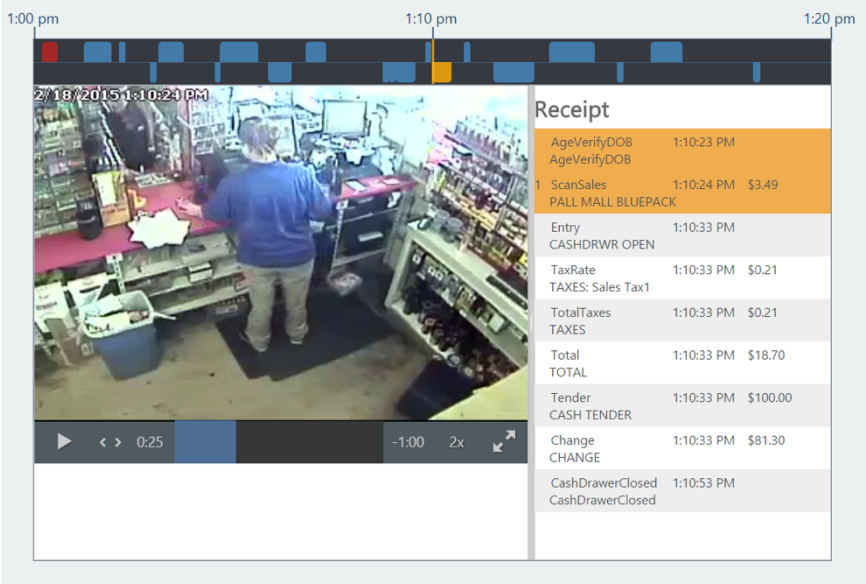
***Dead Simple to Use*.** One of my favorite retail loss stories is from one of the first end users I worked with to implement our VIGIL Trends business intelligence software product. Upon implementation and full monitoring of POS data from this head of Loss Prevention's 1,500 stores, the company had 8,000 employees processing over 2.5 million transactions daily. We scheduled a webinar training session with his team to get them started with the Trends software, and in the email invitation we included a login and password he could use for the dashboard of his new LP solution. Five minutes after sending him the email, he wrote back, "I love it, it's so easy to use I just caught the first person!" The best, most effective BI packages must be very easy to use and capable of finding "the needle in the haystack" without 16 complicated maneuvers and writing your own code. It must provide that all-important return on time invested. I recently learned that this same end user projects that one of their analysts will reduce shrink by approximately $1.2 million in one year using the software package. One person. Over one million dollars saved. That's huge!

Integrated Video for Instant Review. The ability to review video associated with POS exceptions has traditionally been a weakness in exception-based reporting systems. Typically, systems provide the time and date of the POS exception and then the end user has to crank up their DVR software to manually input the parameters to be applied to request the relevant video. In such scenarios the end user has to wait for the video to be uploaded from a distant store. In most retail applications the network links to the stores are very low speed—we have customers who still have 64Kb transmission—and security video almost always is allocated only a portion of the network connection, so more critical store operations such as POS and credit card data can be processed. I have seen it take more than 10 minutes to review a one-minute POS transaction. This is not very good when measuring return on time invested especially when it's repeated over and over.

VIGIL Trends utilizes a scheme where all POS exceptions that show a high probability of theft, and therefore are expected to be viewed, are securely uploaded to the cloud in the background, when bandwidth is available, where they can then be played in a "YouTube" like video format. By using such a video preload capability, one end user's corporate investigators, who had been closing just one or two

cases a month, closed 100 cases in the first full year of use. Because they could review video quickly they were able to look at far more exceptions and close more than 5x the cases on an annual basis.

The Trends dashboard simplifies the arduous task of loss prevention by prioritizing the highest level offender(s) at the top of the list allowing investigators the highest degree of ROTI… you can have analysts working on 5 cases of low fraud value while a chronic offender is lurking undiscovered deep down the list… that can't happen under the watchful BI engine of Trends, we use a very sophisticated algorithm to expose and prioritize those abusers.



Trends enables analyst to rapidly find a needle in a needle stack!

Using Video for What Can and Can't Be Seen. Tight integration with video enables Loss Prevention professionals to create compound exceptions that are based not only on POS transaction data but who is in the camera scene as well. Using that capability, VIGIL Trends can create an exception for a product return when no customer is present. We use video analytics to review the video for a customer in the area where a customer should be standing during the return. If there is no customer, then we flag the exception as a return with no customer present. The odds that this type of transaction involves theft are very high. When we turned this function on for one end user who had only 100 stores, they caught 30 employees in the first month. Several were trusted employees in good standing who had worked for the company for over five years--proving you often really don't know where your shrink is coming from.

Looking over the Horizon, What's Next in Battling Shrink?

One of the benefits of using Big Data over the last couple years is that the cost of creating very large data sets with billions of transactions is low, and combining the ability to search those transactions at an equally low cost is creating new opportunities to more effectively mine that data. We used to keep a few months of transactions per retail location and were only able to search one location at a time. Now, we can keep years' worth of transactions and quickly perform searches that span the entire enterprise.

With this much richer data set, we are starting to look at trends where we study employees who have been caught stealing over time and compare them to current employees to help identify bad behavior quickly so it can be stopped with a conversation and disciplinary action not requiring termination. By doing this we identify theft early to prevent significant loss over time, which is the key role of any Loss Prevention specialist. We may also be able to "save" an employee from termination and getting a record that will negatively impact their entire life, while at the same time saving the retailer the cost of terminating an employee and hiring and training a replacement.

We are also looking at the same data sets to monitor new employee performance over time. This data can be used to determine what type of training is the most effective and when additional training is required. In addition, we identify patterns of activity where stores or regions are not conducting business according to corporate guidelines. For example, we can point out which employees are checking IDs for tobacco and liquor vs doing a date override because the customer "looks old enough." Customer demographics are consistent over time at the same location, so checking IDs should be equally consistent for all employees.

We have found that retailers have many other very rich data sets that fit nicely into an advanced Business Intelligence software package. Data from alarm panels also provides many insights into a retailer's locations. Simply by looking at opening and closing times, Operations staff can quickly see which stores chronically open late or close early. Locations with higher than average numbers of unscheduled openings bear further investigation. Monitoring phone records can point to stores where employees may be spending excessive amounts of time on non-work related activity. The list goes on and on of data sources that may seem mundane but provide rich insights into behavior that is potentially hurting productivity and reducing profits.

We have only started to reap the benefits from mining all the data we are collecting across tens of thousands of locations, and that value to the entire end user organization will only increase as we add more data sets (store traffic patterns, employee staffing, weather, alarm data, to name a few). Once end users start asking questions about their data that would have been impossible to answer just a few years ago, they will come to understand new insights they've only dreamed about and their "wish lists" for tools to further reduce shrink will really start to grow.

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