



Time to see the shrink.
Shining a light on loss prevention.

Make sense of it all. **1010 data.**



Time To See The Shrink

Shining A Light On Loss Prevention With 1010data

"A successful fraud prevention solution must increase detection rates while minimizing false-positives. It should integrate value-added services for authentication, provide fraud alerts that are transparent and prioritized, and provide the flexibility needed to keep up with criminals' evolving schemes. Empowering end-users to manage their own fraud prevention efforts is key."

— Avivah Litan, Gartner analyst

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There's Nothing Small About Shrink

To a retailer, the word *shrink* is a noun.

Shrink is inventory shortage, when goods go missing. Shrink is merchandise that is purchased by a retailer but never sold at any price, and retailers take hits to the bottom line every year because of it. Shrink rates vary by type of retailer, but can be as high as 8%-10%. For a \$10B specialty retailer, a 2% rate is not uncommon. Such a retailer loses \$200M per year in retail dollars, and loses over \$100M per year in real dollars. This amount of merchandise, missing from a single retailer, would fill thousands of tractor-trailers.

Retailers profit enormously when they reduce shrink, and they have invested billions of dollars over the years toward this end. In fact, the costs to prevent and reduce shrink are some of the easiest for retailers to justify. Even minor improvements can pay off. Thus, retailers have developed Loss Prevention (LP) departments, teams, experts and programs. They have deployed software, hardware, specialized tools, and processes. Even with the varying degrees of success from all these efforts, fighting shrink is a never-ending battle.

Some shrink can be attributed to counting and administrative errors. These arise from the failure to accurately account for receipts, price changes, or physical inventories. While no real goods may disappear, the shrink still exists – according to inventory records the goods are missing. Retailers can effectively address these problems through tightening their operational processes and procedures, staff training, and the introduction of technologies such as Radio Frequency Identification (RFID).

Fully three-quarters of shrink is due to theft, and it is perhaps surprising that customers are the not main culprits – nearly half of all retail shrink is theft by employees. To combat this in stores and warehouses retailers deploy guards, cameras, Electronic Article Surveillance (EAS) and RFID tags, security gates, processes and other anti-theft measures.

While such systems are effective deterrents and have reduced theft, they have proven insufficient at keeping pace with the creativity of customers, employees, or vendors intent on stealing. Fraudulent returns and exchanges, promotions abuse, items moved through a register but not rung up, 'sweat-hearting', and other scams all regularly escape detection by these traditional anti-theft systems.

Shrink is real and it's a big problem.

Getting Help From Data

A recent approach to attacking shrink employs techniques from IT reporting and analytics to detect fraudulent behavior. An entire sub-industry of software companies has emerged whose products cater solely to the needs of retail LP departments. Their tools use data gathered from point-of-sale (POS) logs to paint a picture of potential problems.

These LP tools usually work by monitoring for when key indicators fall outside some normal range. These indicators are defined so that they capture evidence of some type of scam known by a retailer's LP team. One indicator might be, for example, a tally of all employees' returns-without-receipt processing rates versus the averages for their stores. A tool that looks at this might notify the LP team whenever this indicator went above a set threshold for a given employee.

Unfortunately, these tools are usually built on relational databases, which suffer from well-known limitations. The sheer volume of data found in POS logs overwhelms RDBMS indexing, and so pre-aggregation, datamarting, or cubing are required. Rather than servicing their own needs, LP teams must rely on IT departments and database administrators to house and prepare the data.

These intermediate steps introduce delay between data availability and analysis, and they significantly constrain the types of analysis that can then be performed. As a result, the number and kinds of LP problems that can be detected by traditional tools are limited. Pre-aggregation, datamarting and cubing all require time and resources to build and manage.

This forces LP teams to manage fraud in a very *reactive* way. As a new scam is investigated and understood, these systems can be 'inoculated' with a new indicator to recognize that scam in the future. But that can only happen once the damage has been done. Proactive fishing expeditions for suspected scams and exploits are simply too expensive to undertake in these systems.

Because they must be anticipated and dealt with *a priori*, scams go unnoticed unless they individually become big hits to the bottom line. Until then, they inflict upon retailers a death by a thousand cuts.

A New Weapon In The Fight

If billions and billions of POS records are like a large, dark landscape covered with footprints, then using traditional LP tools is like having a few light poles in 'high-crime' areas that turn on only once a week. If any fresh footprints are there when the lights come on, the retailer then figures out how and whether to follow them. This is essentially the manner in which many LP departments currently operate.

Continuing with the metaphor, what if a retailer had some fantastic machine that flew around the landscape with a searchlight that illuminated it from any altitude? Suspicious trails could be found anywhere they existed, and quickly followed to places where light poles could never be built. It's fair to say that, were this possible, a retailer's LP efforts to fight shrink would be transformed from the reactive to the proactive.

When it comes to those billions and billions of records, 1010data is that fantastic machine. It is considered the "CSI for Retail" for investigative reporting against the lowest level of source data within a retailer's enterprise. The particular landscapes vary, but the result is always the same and the impact to the bottom line is always significant.

1010data can do this because it's not a relational database. It allows users to explore massive amounts of data in a completely ad hoc way, without requiring any indexing, pre-aggregation, datamarting, or cubing. It collects and relates data from all parts of the enterprise, not just POS logs. Further, what might take hours to compute in a RDBMS takes only seconds in 1010data, so questions get answered that would otherwise go unasked. This quickly leads to a question-answer loop of slicing, dicing, and filtering that ultimately converges on new insights.

1010data thus represents an opportunity for retailers to completely revolutionize their LP operations and their approach to shrink. Instead of reacting to a limited number of only the largest problems, retailers can go on those fishing expeditions. They can pick up suspicious scents and follow them wherever they lead. They can discover shrink scenarios they never knew existed because their traditional LP tools lacked the resolution to find and see them.

Let us examine a few illustrative scenarios.

Scenario 1

A video retailer with many outlets sells new and used DVD's, offering cash for trade-ins. The retailer has analytic visibility to sales and trade-in data for customers, but only aggregated at the store level and tracked on a weekly basis. A particular customer who steals DVD's has a trade-in rate more than 500 times the average. He goes undetected, however, because he operates throughout a metro region that includes three-dozen stores spread across two management districts. No particular store has trade-ins that are out of line.

With 1010data, however, his activities become apparent by looking at trade-ins per customer across all stores and districts for a sufficiently large time period.

Scenario 2

A customer service agent at a big-box retailer watches for those customers that immediately throw away their receipts going out the door. She retrieves them and later processes them as returns herself, minus the merchandise, which she makes sure is in stock. Since she is processing returns with receipt, she goes undetected by existing LP indicators.

With 1010data, she will be discovered out of thousands of employees and billions of transactions by a comparison of returned SKU's by employee versus inventory shorts for those SKU's in the same time period.

Scenario 3

A high-end fashion retailer gets exception reports on employees with too many returns in a single day. The retailer employs a high threshold to avoid false-positives. This makes it vulnerable to a disciplined assistant manager who, by spreading her fraudulent activities over time, stays below the threshold on a daily basis even with returns at nearly 10 times the normal rate.

Using 1010data, the scam is uncovered by looking at total returns per employee over month-long periods.

Scenario 4

A sporting goods store employee who works at several locations has developed the habit of leaving the shared cash drawer slightly ajar after a sale, and then moments later helping himself to small amounts of money. He has done this for over a year, and is missed by all the existing LP indicators the retailer has in place.

With 1010data, he will be discovered through the linking and comparison of average drawer-open times per employee against stores' daily reported cash shortages.

Turn On The Light

In short, 1010data sheds light on shrink like nothing before. In these and countless other scenarios, 1010data is helping retailers root out scams, theft and other sources of shrink that have spent too much time flying under the radar of traditional LP reporting and analytics systems.

Provided as a hosted service in the clouds, 1010data puts control of analytics firmly in the hands of end-users, from LP teams to merchandisers. Do you have your own dark expanses of data that need illuminating? Turn on your light today.

To get started today, give us a call at 212.405.1010 or visit www.1010data.com