Loss Prevention

What Retailers Don't Know Might Hurt Their Bottom Line

Merging Complementary Technologies is Essential

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INTRODUCTION

Loss Prevention (LP) professionals are facing numerous challenges from the increase of omnichannel shopping. Shrink has increased from all directions, including organized crime, shoplifting, employee theft, returns fraud, plus administrative and operational errors. Coupled with supply chain hurdles, high inflation, and increased labor costs and shortages, retailers are feeling overwhelmed in the current retail climate.

Fear no more—or at least a little less. Developments in 5G networks, video analytics, RFID, Exception Based Reporting, and Blockchains are starting to provide LP specialists with the tools needed to combat shrink. More data can be generated, extracted, transformed, and analyzed from these tools to provide teams with actionable insights to detect and possibly even thwart criminal activity in real time. Meanwhile, the reduction in costs of LP software, video cameras, RFID tags, and telecommunication infrastructure provide, retailers with a greater ROI coupled with controlling losses.

In this white paper, we cover advancements in EBR and emerging and innovative technologies that can help retailers minimize shrink and increase revenue and profit. These technologies, when combined, can help Loss Prevention teams reduce fraudulent activities and shrink.

"WITH ADVANCES IN LP TECHNOLOGIES, RETAILERS CAN FEAR NO MORE—OR AT LEAST A LITTLE LESS."

EXCEPTION BASED REPORTING

When did it start?

Exception Based Reporting (EBR) was initially created as a tool for retail and restaurant in the mid-90s. Client-Server environments using relational databases were spun up for Loss Prevention (LP) teams to allow them to mine POS transactional data across their entire chain of stores from one central point, typically located in their central corporate offices. The EBR concept dramatically revolutionized LP processes, allowing teams to look for patterns of internal fraud using an analytics software tool as opposed to manual processes already in place. The focus from the LP community was to identify fraudulent activities by their employees using refunds, voids, employee discounts, and sweethearting.

Database storage was expensive and network speeds were too slow to get the critical POS data and not interfere with in-store technology functions. Many industries like restaurants, C-Stores, and grocers were not even capturing detailed POS data.

How has EBR Evolved?

As EBR technology matured, it became a mission-critical solution for LP departments. It allowed them to drive significant ROI back to their organizations and created a healthier in-store environment. They did this while significantly reducing LP headcount and other expenses: for example, eliminating store-based LP personnel while increasing the span of control for regional and corporate LP personnel. In a recent survey conducted by LP Magazine, 95% of survey respondents said that EBR was what they use to accurately identify cases of internal loss.[1]

As faster networks evolved, the capabilities of EBR tools and the productivity of LP teams improved. POS systems continued to evolve, making POS data more robust. Reduced cost in data storage allowed EBR tools to store years of detailed historical data. Video systems became the norm for in-store visibility and EBR systems added links to cameras overseeing the registers. Now, when a cashier was flagged in the data for a possible refund fraud scheme, LP teams could push a button and get the corresponding video of that cashier and transaction. Cloud computing with web and mobile access have driven costs down for LP teams and made their systems easily deployable to corporate, field, and store users. This dramatically reduced the burden to the retailer's corporate IT teams.

SWEETHEARTING

In the retail industry, sweethearting is a form of employee theft that occurs at the cash register. The employee gives away merchandise to a "sweetheart" customer such as a friend, family member, or fellow employee. Cashiers are able to do this in numerous ways, including:

1. **Scan avoidance**
2. **Price overrides**
3. **Refund fraud**
4. **Gift card fraud**
5. **Void fraud**
6. **Invoicing scams**

Sweethearting is the most common type of employee theft. Most methods of stopping sweethearting include physical supervision of the cashier or installation of software that detects sweethearting activities, which can be difficult to do. Common countermeasures include use of CCTV surveillance cameras and security guards checking customer receipts at exits. EBR tools utilize built-in analytics to watch for patterns of sweethearting. Zero-dollar checks, low-value transactions, and high line-void activity within a transaction are all examples.

1. Agilence, 2021

Enhanced analytical capabilities have been built into EBR tools to allow users to pinpoint exceptions across massive data sets. Each retailer is unique, requiring fine-tuning of the analytics based on their POS, policies, procedures, and the way the employees interact with the POS. These findings are built into deliverable reports that LP users and store management can review and act upon. Also, findings can be built into prescriptive alerts that are delivered to the right person who can then take corrective action based on the prescribed game plan.

How can EBR be used today?

Today, the most effective LP Teams are focused on far more than catching the employee theft cases with their EBR systems. They have become an integral part of the retailer's eco-management and have broadened their impact to the organization in support of the concept of Total Retail Loss (TRL).[2] TRL moves beyond the narrow definition of shrink to include all monetary losses to retailers. This entails not only looking at the shrink in losses but also across all areas of the business impacted, including labor, margin, compliance, customer retention, and lost sales. Loss Prevention Magazine surveyed nearly 100 LP professionals who shared their perception of Loss Prevention's value within their organization. The survey revealed that leaders look to LP to provide fast, accurate data for more significant insights into business operations. As a result, LP is partnering with other functional groups to gain insights into everything from store-level operations to COVID-19 health and wellness protocols. By using EBR data analytics and advanced tools, retailers can gain insights into:

- What's the quick read on items selling?
- Are we getting loyalty sign-ups? At what frequency?
- How well is that promotion doing in New York and California?
- Are employees overriding prices to start early or extend the weekend promotion?
- Are employees "up-selling" accessories and or added desserts?
- How many of my BORIS (Buy-Online-Return-In-Store) transactions are really happening, and are they being converted into exchanges?
- Are our self-checkout lines as effective and secure as we need them to be?

These departments have systems to support their answers, but the better EBR systems have helped them get them faster insights to help in improving top-line revenues and profitability.

2. Beck, 2018

The best EBR systems today are experts at consuming and curating data from multiple sources.

POS data often comes in different boxes within a retail world as retailers operate restaurants within their retail and grocery stores. Two, three, four, or more different POS systems feeding into one EBR are common.

E-Commerce channels flow into EBR to manage the total view of where a customer buys, returns, picks up, or has the merchandise shipped to. BORIS, BOPIS, and more. Loyalty information can be fed into EBRs to track potential fraud and employee misuse.

Third-party delivery data from organizations like GrubHub, along with third-party ordering services like Instacart need to be analyzed.

Inventory data has been fed into EBRs to monitor direct-store-delivery (DSD), cycle counts, out-of-stocks (OOS), receiving variances, and other supply chain points.

Alarm and access control data, store P&Ls, and labor hours are also common areas brought into EBRs.

Video Analytics turn in-store cameras into powerful, data-driven tools that analyze: people or traffic counts, queue times, items in cart, high activity areas, how many times an item is touched on a supermarket end cap, employee movement, and customer in-store movement.

WHAT'S NEXT FOR EBR AS TECHNOLOGIES MERGE?

Two critical parts will be integral to the EBR platforms in the near future:

5G networks and more data, more data, more data!

READ ON ↓

5G IN RETAIL AND LOSS PREVENTION

We all have seen the commercials where mobile network operators and smartphone providers tout their 5G capabilities. What exactly is 5G? It's the fifth-generation standard for broadband cellular networks. It is designed to deliver higher peak data speeds, low latency, and offer more reliability.[3] These improvements enable increased data consumption and Internet of Things (IoT) within retail. 5G provides the interface to support the growing digitally native user experience. Consumers and retailers can obtain instant access to data. This provides greater personal customer experiences. Retailers can make more informed decisions with the enablement of real-time data from 5G. This results in better inventory management, shrink reduction, and investment decisions.

While store network IT resources must always protect mission-critical store systems like POS, inventory feeds, and payroll, more bandwidth and speed will create additional opportunities for LP teams:

- POS Transactional Data – while "real-time" POS data or trickle polling of transactional information is not new, many retailers still have yet to adopt it. In addition, getting this data to LP teams and EBR systems has never been a priority. 5G will create the opportunity to shift this data faster and move toward a "real-time" centralized LP team. The same would pertain to the ability of the retailer to move e-commerce data faster.
- Video accessibility tied to the POS stream would also improve with 5G. IT teams will no longer need to limit the use of video reviewing over their store and corporate networks.
- Other new LP technologies like facial recognition are enabled via 5G, enhancing the retailer's ability to quickly address repeat shoplifters and ORC (Organized Retail Crime) group actions.

How Long to Download a 2-hour Film

3G → 26 Hours
4G → 6 Minutes
5G → 3.6 Seconds

SOURCE: urtech.ca

3. Qualcomm, 2021

VIDEO ANALYTICS

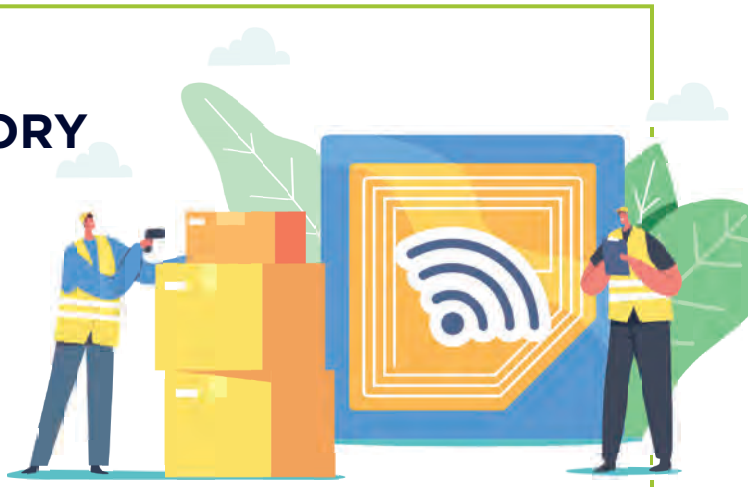
You have likely seen one of the Las Vegas-based movies showcasing the numerous cameras in the sky found at any casino on The Strip. These electronic eyes are seen everywhere, with significant video analytics power behind them, keeping tabs on all activity occurring on the property. Initially, video analytics use cases were primarily in the security, casino, and government realms. As mentioned, though, video analytics within the retail and hospitality ecosystems have progressed quite a bit over the past five years. Today, in combination with IoT Sensors (RFID, Bluetooth, Beacons, NFC), video analytics is being leveraged for a wide range of purposes such as food safety, operational checklists, merchandising, inventory monitoring, and cashierless checkout. Below are some LP use cases that can be achieved with the right partner:

- **Facial Recognition** can identify and alert the proper resource when a known shoplifter enters its establishment. This allows LP security teams to take preventive actions, but it also enables retailers to enhance the onsite guest experience by allowing the stores to ID customers right away and provide a more personalized experience.

- When partnered with IoT sensors such as intelligent shelving sensors and RFID **Continuous Inventory Monitoring**, that brilliant eye in the sky can help reduce inventory inaccuracies and alert store personnel when items go missing. Having access to real-time data could also aid store leadership in obtaining instant feedback on the effectiveness of planograms, advertisement placements, and end caps. Flowing this data into an EBR solution allows for patterns and exceptions to be detected and acted upon by LP professionals. LP teams can then compare similar stores and associates and normalize the activity to see true pattern exceptions.

- **Smartly monitor** the store for any intentional or non-intentional theft behaviors by either staff or guests. Today, intelligent video solutions can be on a constant lookout for suspicious behavior, whether in the front of the house (aisles, checkout, bar, tables) or back (kitchens, offices, storerooms). As mentioned above, flowing this info into an EBR solution allows for the patterns and exceptions to be detected and acted upon quickly by LP professionals. This enables store management to take real-time action.

RFID – SERIALIZED INVENTORY



Imagine a world where your inventory has a unique Electronic Product Code (EPC) number which acts like an automobile Vehicle Identification Number (VIN) number. All products can be tracked like a Carfax with a number that identifies where it was purchased, when it was purchased, from which retailer, what store, what time, for how much, and to whom—or even if it was purchased or stolen and potentially who stole it. This is the promise of RFID technology. RFID also gives us the opportunity to increase omnichannel sales through optimized merchandise availability, to create a frictionless customer journey by speeding up checkout and to virtually eliminate fraudulent returns. You cannot return or sell a stolen car because the VIN exists. With serialized inventory, this can be the same for all products going forward.

Serialized inventory is a game-changer in Loss Prevention.

— KEN MORRIS
MANAGING PARTNER, CRA

Another benefit of RFID will be faster checkout because RFID does not require separate scans for each item during checkout or the return of merchandise. All RFID tags can be linked to exit doors to verify that payment has been made for the merchandise. Returns are verified via RFID tags, so you know with 100% certainty when and where an item was purchased, at what price, and by whom, regardless of channel

With source-tagging, RFID tags are attached to the product trim or packaging or even can be built into the product itself (as is the case with some footwear today), so the costs of tagging the merchandise are built into the product by the manufacturer. The tags can be designed with features that prevent or discourage tampering or removal, or can be hidden in primary or secondary packaging of, for example, beauty and personal care items. **This process increases customer satisfaction, because it speeds up the checkout process while reducing store labor costs associated with security tag placement before sale and removal at point of sale.**

RFID tagging can also eliminate the need to hard-tag merchandise with security devices by leveraging the ability for an RFID tag to be read, verified at POS, and linked to the exit door as a security alarm. You can also put a major roadblock in place against sweethearting (scanning fewer items than presented) as all products will be read at once at POS without requiring a separate or individual scan for each item. You can alter a customer's behavior by making their transactions frictionless. This combination of technologies will make buying easier, increasing conversions reduce walkouts, and create return customers.

"The use of RFID is growing among global beauty retailers, not only because it can help better manage inventories of complex assortments, but also because it provides a comprehensive solution to combat theft and organized retail crime in one of the highest shrink categories."

—ROBERT PERNICE, GLOBAL DIRECTOR OF MARKET DEVELOPMENT,
BEAUTY & PERSONAL CARE, AVERY DENNISON SMARTRAC

RFID/EPC Return Fraud

Return Fraud RFID tagging provides the serialization of items, allowing retailers to uniquely identify each unit. For example, one size-8 purple dress will have a different serialized identifier from another size-8 purple dress with the same SKU. This enables each RFID tagged item to be unique, as compared to a standard SKU-based identification system where all items with similar size, color, and style have the same SKU identifier. This distinctive identification allows retailers to combat fraudulent returns.

RFID/EPC SERIALIZATION

When a customer brings in an RFID tagged item for return, the retailer will be able to identify if that specific item was sold and if it was the exact item that was purchased, not another size/color/style of the same item. **This ensures that the exact item that was purchased is returned.**

By capturing this unique identifier at POS, the serialization of items allows LP personnel to investigate diverted products and locate stolen merchandise. Given that each item is uniquely marked, a criminal cannot simply duplicate the serialization of an item generated by the retailer. RFID data flowed into EBRs can help LP teams identify and track patterns and exceptions. If LP teams come across stolen or counterfeited products, they can search their database for the unique identifier. During this search, the team can look for when or if the item was purchased, where it was last located in the retailer's supply chain, and whether the item was marked as stolen. EPC/RFID tagging provides new data that did not exist before, right at the retailers' fingertips.

"RFID has revolutionized how asset protection is managed at Macy's, including delivering significant shrink reduction results"

—JOE COLL, MACY'S, VP OF ASSET PROTECTION AND ADMINISTRATION

Macy's implemented RFID in their stores in 2013 to improve inventory accuracy and visibility for item-level merchandise replenishment, re-ordering, display execution, and omnichannel fulfillment.

In 2016, the Macy's team began to leverage RFID technology in asset protection initiatives, both in the store and externally with fighting ORC, organized retail crime. "Smart Exits" were installed at both customer and employee exits. The "Smart Exit" solution combines traditional EAS pedestals with RFID readers and antennas to enable passive scanning of RFID (EPC) tagged merchandise. This creates a digital footprint for all RFID tagged items; the Who, What, Where, When and Why are known. The data is gathered to identify items that left the store without an associated sale event and linked to video footage to allow for validation and investigation. This provides for an enhanced evidence package, with detailed information on the stolen items—style, color, size—and has proven very effective to assist law enforcement with prosecuting organized retail crime.[4]

In summary, in the current environment, with the surge of high-profile retailer thefts, Macy's Asset Protection team has embraced RFID technology to provide critical data and business intelligence to protect merchandise, better position asset protection strategies and deliver better shortage results.

4. LPNewsNetwork, 2019

BLOCKCHAIN

Conversations around blockchain and its applications have significantly grown in the last two years. MIT professor, Christian Catalini, defines blockchain as a network of computers (nodes) that "agree at regular intervals on the true state of a distributed ledger".[5] Blockchains can track assets and record transactions, credentials, and other minute details of a transaction. Assets vary from items like cars, land, and homes to patents, naming rights, and trademarks. These ledgers provide transparency and security to all parties involved. Information is delivered to all parties within minutes, is accurate, shareable, and transparent. Ledgers on a blockchain provide a "single view of the truth" where all details are shared to all members.[6]

Numerous use cases with blockchain technology continue to arise. In each of the examples below, blockchain has created accountability and transparency across the entire transaction and for all parties who touch (or digitally touch) the product.

- Cryptocurrencies are on blockchains, allowing accounting teams to settle and reconcile global transactions at reduced costs.
- Goods can be traced across the entire supply chain, from farm to plate or manufacturer to consumer. Items linked to a blockchain can help retailers ensure accurate inventory throughout every touchpoint of the supply chain. Items can be tracked in warehouses, during transportation, in stores, and with the customer who purchases the item. Walmart has shown that they are able to track 25 products from source to consumer. Products included vegetables, fruits, meats, and seafood.
- Both the retailer and supplier know where the item is located at all times. Disputes about shipments, fraud, or theft are significantly reduced given all parties (supplier, retailer, and customer) have a shared view of the truth (distributed ledger).
- De Beers tracked diamonds from mine to retail on a blockchain which enhanced trust in the diamond industry by assuring provenance and authenticity.

While still in its infancy, the use of blockchain has hundreds of applications that improve traceability, identification, and authentication. LP and other departments can manage supplier relationships better, perform more productive quality checks, and offer better customer service.[7] **There is no other technology that offers an immutable audit trail of goods as does blockchain.**

5. Church, 2017 6. IBM, 2021 7. Sristy, 2021

CONCLUSION

Today's retailers are under constant attack from "shoppers" who are attacking their bottom line. Those attempting refund fraud, sweethearting, shoplifting, or even massive "flash robs" do not think of it that way, but retailers must. So, most retailers have refocused their LP efforts on ways that can actually contribute to a healthier bottom line: technology solutions. Your hands are not tied.

The adoption of these tools will continue to grow within the retail and hospitality industries as leaders look for ways to tackle these LP challenges. If deployed correctly, these complementary tech investments can contribute significantly to reducing shrink and criminal activity while positively improving the retailer's overall profitability and customer experience.

SPONSORS

A special thanks to the sponsors who have helped make it possible to publish this white paper.

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