# Mapping Crime Risks

Location data helps specialty retailer minimize loss and maximize sales

by LIZ PARKS

A specialty retailer based on the West Coast has become the first retailer to sign on to what is described as a major technological advancement in loss prevention: a unique centralized retail risk forecasting and management platform that can help companies make better business decisions while minimizing shrink and maximizing sales and customer satisfaction rates.

The 1,000-store retailer—which asked not to be identified in order not to reveal its LP strategy—worked in partnership with data and analytics firm Ironside and Location Inc., a provider of high resolution location-based crime risk data and analytics.

The integrated and centralized technology "makes it easier for businesses to organize, manage, process and model data to help them measure and improve business performance," says Greg Bonnette, Ironside's vice president of strategy and innovation.
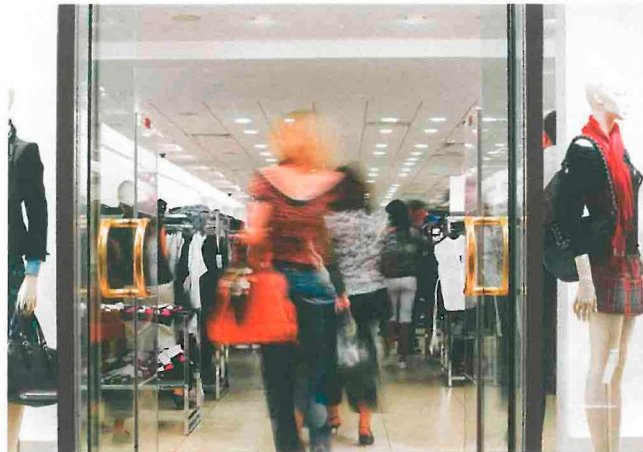
Ironside's role is to help the retailer combine its own proprietary internal loss prevention data with crime risk data from Location Inc.'s SecurityGauge platform to generate a more accurate crime risk forecast.

Using integrated data as it applies to individual stores or potential store locations, the platform is currently helping the retailer manage physical and financial assets in its loss prevention department, optimizing allocations while simultaneously reducing shortages as much as possible.

Location Inc. uses each store's address and provides location-based crime data, risk scores and forecasts that offer insight into the external crime risks that are visited upon each store. The risk scores and forecasts are calculated every 30 feet or so around each store location.

"We are showing how crime risk is changing as you move from one location to another," says Andrew Couture, Location Inc.'s vice president of sales. "That's helpful because when you classify your stores based on risk, then you can more effectively allocate your LP resources and budget and put more surveillance cameras or guards in your high-risk stores, for example."

SMALL MOVES

Location Inc. collects raw crime data from 18,000 law enforcement agencies in America and 554 Police Service Areas

in Canada. It brings that data together with demographic information, then uses a relational database to assign reported crimes from each agency to the city where that agency has law enforcement responsibility. That provides an accurate representation of the complete number and types of crimes that are known to occur in any city or town.

SecurityGauge then uses proprietary computer models to predict crime risk.

Given the address of an individual location, Couture says Location Inc. can generate risk scores and map eight different types of crime risk for that location, including burglary, larceny, vehicle theft, vandalism and aggravated assault.

By recalculating those risks every 30 feet, a retailer can see how they change around the geography of an address. Location Inc. also gives retailers a heat map, which covers either three miles or a population of 100,000, and shows retailers where the crime risks are around their stores.

A store located at 1 Main St., Couture notes, will have a different risk from a store located at 200 Main St. Calculating the risk in small spatial increments allows retailers to spot significant crime risk variations and use that level of detail to make their crime risk assessments more accurate.

Retailers can assign a total crime risk score for individual stores as well as crime risk scores for the various types of crime. They can also see crime risk trends that cover the past five years and show how the risks around the selected addresses have been changing.

UNDERSTANDING RISKS

Traditionally, retailers using Location Inc.'s data and trying to assess risk per individual store location were using that data in a vacuum, manually correlating it with internal data. Ironside runs all that data through its centralized IronStores loss prevention analytics and data management platform, creating models that help a retailer's LP staff much more quickly and accurately predict the likelihood of crimes occurring in or around individual store locations.

Ironside also uses the data to predict shortages, cash loss, safety risk and customer service risk scores. The program also reviews the environmental crime risks for individual stores, helping a retailer's LP staff understand how those are contributing to shortages.

"We help a retailer understand why crime risks are happening within their individual stores," Bonnette says. "We help them understand the drivers behind their risks and their relative importance by each specific store location."

The user interface, designed for a chain's corporate, regional, district and select store-level LP staff in the form of prescriptive dashboards, is deployed on top of the proprietary IronStores LP risk analytics model.

At the corporate level, the application is designed to help a retailer make strategic decisions about new store locations, among other things; at the regional and district level, it is designed to help managers make informed decisions about the stores they oversee. At store level, it is intended to help LP and store-level managers make day-to-day operating decisions.

Store-level LP personnel can also use the guidance as a coaching and training tool "to help store level employees understand the key levers that they can use to affect how well their stores perform," Bonnette says. "For example, how to increase customer satisfaction to build loyalty and increase sales while simultaneously reducing shrink."

INDIVIDUAL KPIS

In analyzing the data, Ironside and Location Inc. are helping their retail customer discover what Bonnette describes as a "correlation between shrink and customer satisfaction scores."

"The higher the customer satisfaction scores for stores in various locations, the lower the shrink," he says. "It reflects how well the employees cover a store and how aware they are of their customers through observation, where they may be within a store, what they might be doing and whether they seem to need assistance."

With this information, store-level LP personnel can initiate training programs around enhancing customer service as well as the satisfaction levels of their store's staffs. At press time, that part of the program was about to go live at all of the retailer's North American stores with approximately 100 executive, managerial and in-store LP workers.

The training will include helping employees see how their individual stores rate across multiple key performance indicators such as shortage rates, cash loss, overall shrink and customer satisfaction — factors crucial to an organization's success.

To perfect the predictive model the retailer is rolling out, Ironside fed the shortages and performance data for 2014 and 2015 into the system, helping the software improve its learning curve across a wide variety of scenarios. The company compared what the model predicted for 2016 across many scenarios to the actual results in the stores in 2014 and 2015 to access the accuracy of the model's predictions.

It is now using 2015 and 2016's real performance data to assess how well the model's predictions and recommendations for 2017 are working, looking "one step into the future."

There are currently no estimates for how much Ironside's IronStores platform will be able to reduce this chain's crime risks going forward; when using similar techniques for one law enforcement agency, Bonnette says, crime fell between 35 percent and 40 percent in the locations analyzed.

Bonnette estimates an average retailer using IronStores can achieve a return on investment in approximately six months.

"Possibly the biggest thing we learned, I think, is how important it is for store-level employees to give a great customer experience and engage their customers," he says. "If you engage them, even if you're in a high crime area, you can have a huge impact on your bottom line." **STORES**

Liz Parks is a Union City, N.J.-based writer with extensive experience reporting on retail, pharmacy and technology issues.