InfoCepts

Retail Merchandise Loss Prevention App

A major retailer with more than 500 stores across the United States was losing significant revenue every year to inventory shortage. InfoCepts developed a transaction-based mobile iPhone app that empowered managers with real-time reporting and enabled them to take immediate action to prevent loss.

Business Challenge

Loss is a major problem for retailers and can happen for a variety of reasons — employee theft, shoplifting, administrative error, vendor fraud, or even organized crime. Published in 2013 by the Center for Retail Research, the latest Global Retail Theft Barometer estimates that losses in a retailer's inventory (known as "shortage") can cost the global retail industry more than $112 billion every year.

The National Retail Federation brings retailers together annually with loss prevention strategists and law enforcement professionals to address the many issues retailers face with shortage at their stores.

Many retailers who suffer from shortage attempt to combat the issue with paper-based inventory systems that are unpopular with employees, riddled with opportunities for error, and cumbersome to the retail organizations that rely on the data provided by the reports.

Our client, a leading off-price apparel and home products retailer, used a paper-based system to conduct audits across its more than 500 stores. This outdated system made audits incredibly time-consuming and delivered less than accurate results. With a higher-than-average annual revenue loss — 3 to 3.5 percent — resulting from inventory shortage, the company's loss prevention team had implemented several business and technology solutions as part of a corporate-wide loss prevention plan, but results were disappointing, showing an improvement of only 0.5 percent over three years. The company needed a more efficient, reliable process — and turned to InfoCepts for help.

At a Glance

PROJECT
Mobile App Development

TECHNOLOGIES
- MicroStrategy
- MicroStrategy Transaction Services
- Netezza

TEAM SIZE
- 3 InfoCeptians
- 2 Customer Associates

OUR ROLES
- Database Architecture
- MicroStrategy iPhone App Development

USERS
- Regional Loss Prevention Manager
- Shortage Control Director
- Loss Prevention Director
- Loss Prevention Supervisor

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Evaluating the Process

Our team began the project with a thorough examination of the retailer's audit processes. The company's 40-member audit team conducted three or four shortage audits annually at each store, using a manual process that involved teams armed with clipboards, paper, and pencils recording data across various loss prevention measures, such as electronic article surveillance (EAS) compliance, the store's accounting results, and activities taking place at key areas throughout the store (the front desk, fitting rooms, selling floor, inventory, and receiving areas).

Details from each audit were shared with the team at headquarters, who consolidated the paper reports into an Excel spreadsheet. Once the data was entered and compiled, the team at headquarters used the data to calculate an audit score and generate a report to share with stakeholders. That step alone took a minimum of two weeks.

For a number of reasons, the paper-based process presented challenges:

- Relying on manual efforts to collect, combine, and input data from more than 2,000 audits each year was inefficient and error-prone.
- Paper-based forms were frequently out of date or out of synch, resulting in incomplete and inaccurate audits.
- From the time the audits were conducted, it took two weeks to compile and deliver reports, leaving management unable to take quick action to reduce further losses.
- Without a centralized dataset that could store, audit, and analyze data, the team was operating without the benefit of quarterly and annual performance trends and other key insights.

⊕ InfoCepts' Solution

Our goal from the start was to provide the retailer with a set of solutions that could transform their paper-based process into an experience far easier for the team on the ground to use.

We also wanted to equip managers with rich data sets and analytics that they could access and use to make decisions immediately.

Over the course of the project, we identified an automated and scalable transaction and reporting system that could operate on an iPhone. We then created the system using technologies from MicroStrategy enterprise software, including MicroStrategy BI and MicroStrategy Transaction Services, and selected IBM Netezza as the core database.

As a first step, we replaced the store's paper-based shortage audit process with a MicroStrategy Transaction Services-based iPhone app that captures store data electronically.

Next, we wanted the store to be able to make decisions in real time, so we replaced the Excel-based reporting with MicroStrategy reports, which can calculate store audit scores immediately — and help auditors on the ground make decisions more efficiently.

Personalizing the Shortage Audit App for the Client

Each of the retailer's stores has more than 100 data points covering 10 major categories that are measured during each audit. In addition, each category has different data input requirements — making the process of gathering information highly complex.

The company needed a solution that could work for a diverse range of auditors across more than 500 stores, so we developed an iPhone app that could handle a wide range of transactional input forms, along with a flexible drag-and-drop design template.

This solution meant that auditors could now use their iPhone app to input or update a variety of metrics, including numbers, text, dates, images, and GPS data. A series of sliders, switches, and steppers simplified the input process even more.

To make the app as accessible as possible, we enabled it to support offline transactions and to work with or without network connectivity. We also enabled the app to be updated to accommodate new categories, and to reflect any changes made across the entire network to ensure data completeness and consistency company-wide.

Meaningful Reporting, On-Demand

Once auditors enter the data, the app calculates audit scores automatically based on client-defined logic. And when auditors add the store's data to a centralized database, they can check current data against past results for enhanced analytics.

An audit summary report is generated in MicroStrategy and sent automatically to the respective store representatives and the shortage control team, so teams can quickly identify gaps and take action immediately to minimize shortage loss.

Data is also loaded into the Netezza database, which generates a wide range of reports for the team — and allows them to identify trends at individual stores by region or function.

➡ Delivering a Strong Return on Investment

Our shortage audit app streamlines the audit process for our client and enables managers to access and analyze results in a far more efficient manner.

The app delivers a wide range of benefits, including:

- Significant reduction in manual effort, from reducing paper with all its inefficiencies and eliminating time needed for data entry and manipulation in Excel, to freeing up the team to focus on data analysis and problem-solving.

- Real-time reporting means auditors can see reports immediately rather than waiting a minimum of two weeks, thus reducing shortage loss and empowering auditors and managers to take immediate action for loss prevention.

- Our highly scalable system allows the loss prevention team to change or update audit questions as needed to gain new or different insights.

- Data warehousing makes it possible for the management team to view historical data and identify shortage loss trends across the organization, throughout regions, and over time so that they can more efficiently take short and long term loss prevention measures.

➡ About InfoCepts

Since 2004, InfoCepts has delivered on the promise of business intelligence and data warehousing. Using leading-edge technologies, we've designed and delivered world-class systems for data syndicators, large global enterprises, and leading software companies. Some of our marquee, world-class projects have included custom BI applications that serve thousands of users, mobile analytics applications used by hundreds of sales professionals, and "big data" initiatives for social media analytics.

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