



White Paper:
Identity Focused Retailing

“Retailers can significantly impact profit by reducing shrinkage through better employee screening and detection of vendor and employee fraud, but they can also increase revenues using the same technology to grow positive customer relationships. Your solution is one that every retailer should evaluate.”

*William R. Fields
Former CEO
Wal*Mart Stores Division*

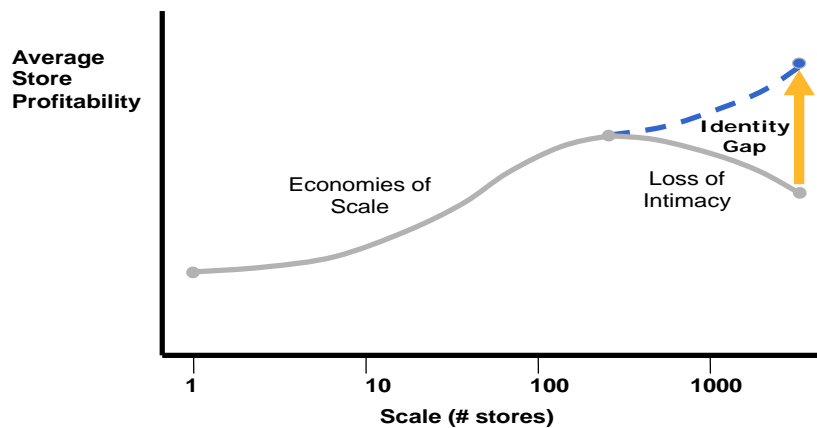
Retail Evolution

The retail environment has grown increasingly complex in recent years. As the lines blur between categories of retailers and the rise of online shopping enables far broader competition, the contest for profits becomes more intense. Existing retail organizations experience relentless pressure to innovate in all aspects of their operations.

Long considered a necessary evil, the loss prevention (LP) groups within retail organizations are becoming increasingly important. With billions of dollars literally walking out retailers' doors every year, LP is being pressured to leverage innovative technologies that will provide a tangible increase to the bottom line. Physical security has gone as far as it can go. Forward thinking LP executives are now turning their attention to the individual identities of those who would defraud them.

Only a few decades ago, customer centricity was not optional – it was a critical success factor. Proprietors of successful general stores knew who their customers were, and could differentiate them from employees, bad check writers, suspicious vendors, known shoplifters and so on.

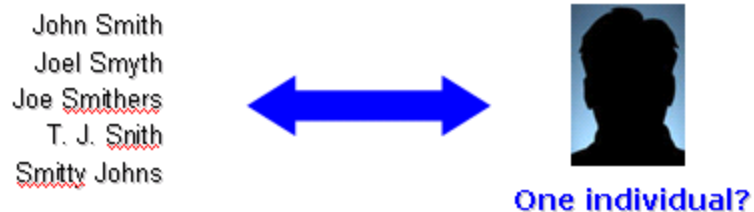
As an increasingly transient and rapidly growing population combines with the rise of shopping centers populated by stores whose owners are thousands of miles away, the intimate knowledge of customer needs once held by retailers no longer exists. Retailers now have an *identity gap* that hinders profitability. The pressure to compete more effectively and profitably creates an urgent need for retailers to know the identity of each individual with whom they are dealing during all transactions and in all circumstances.



Identity Focused Retailing

Fundamentally unique retailing technology is emerging to support the customer-centered retail environment. Identity Focused Retailing (IFR) is based upon the belief that individual identity should be integral to the core of every retail business process, e.g., hiring an employee or accepting returns. The key to IFR is knowing who's who... and who knows whom. Absolute certainty about the identity of individuals and relationships, good or bad, dramatically improves decision-making during each business process. Improving everyday execution is a direct path to higher margins.

Identity Focused Retailing solutions do not require an expensive overhaul of existing technology infrastructures. Instead, existing systems are greatly enhanced and extended through the non-disruptive and non-intrusive addition of powerful algorithms capable of resolving unique identities, despite input errors or attempts to deceive. IFR solutions draw from the retailer's multiple sources of internal data to present a single view of a customer, a vendor, or an employee to existing operational systems.



Knowing Each Customer

Identifying each customer - and their respective attributes - results in a dramatic rise in operating efficiency. The ability to optimize the shopping experience while simultaneously minimizing risk is greatly enhanced by knowing positive and negative information about the customer during each transaction:

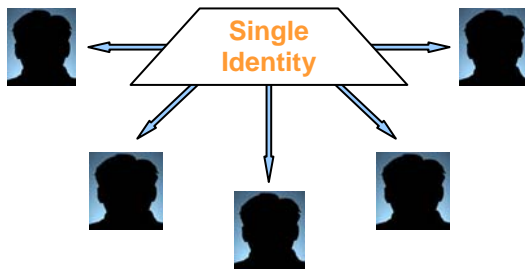
- Is this person a regular customer?
- Has this person used multiple identities?
- Has he or she passed bad checks?
- Is this person on a list of known shoplifters?
- Is this customer an employee of another store in the chain?

Identity Focused Retailing

Existing computer systems that support retail operations provide valuable functions, such as point of sale transactions, store operations, human resources, returns management, vendor relations, and e-commerce. While they each generate and store valuable data, each system was developed to address a particular function and is thus a “silo” of information unto itself. Simply put, the systems cannot help retailers differentiate between customers, employees, vendors, shoplifters and so on. Infoglide Software helps solve this problem with IFR solutions.

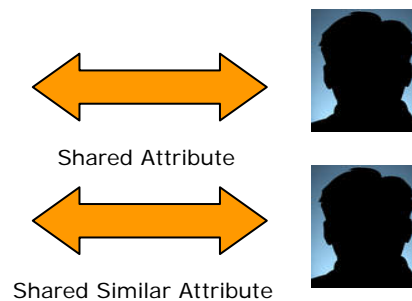
Who's Who?

Identity Resolution Engine™ (IRE) resolves multiple identities across data sources – despite input errors and attempts to deceive.



Who Knows Whom?

Patented Similarity Search algorithms determine non-obvious and hidden relationships between entities within the data.



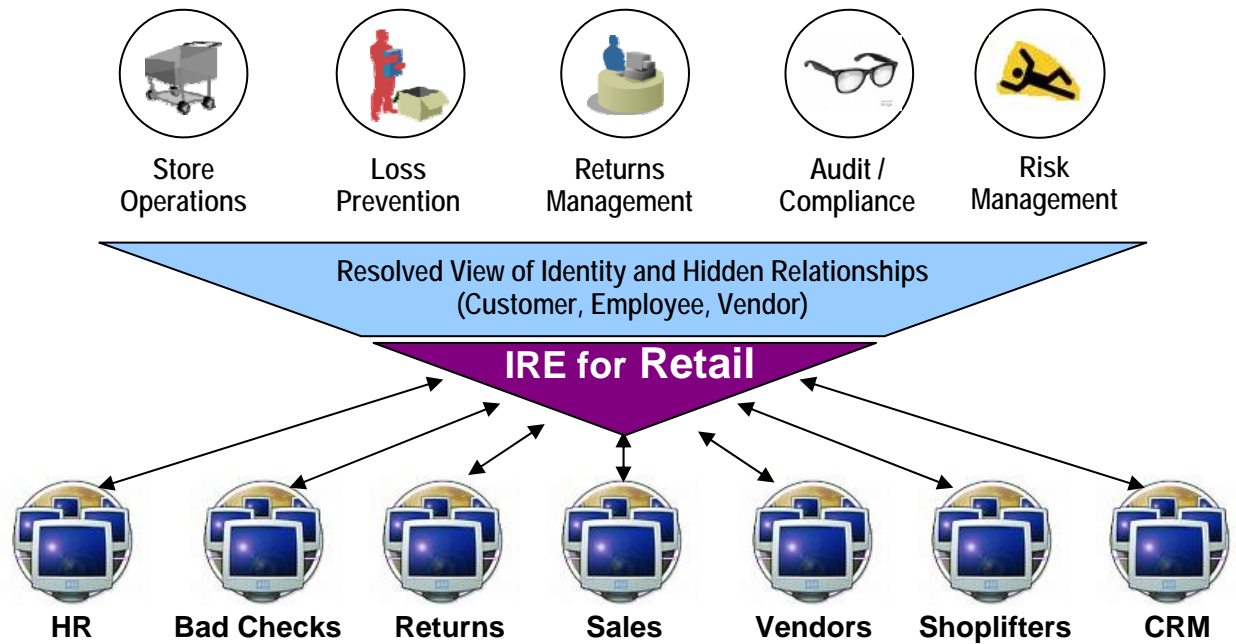
Silos of Information

The retail industry generates, stores, and maintains more data than any other industry in the world – aside from the U.S. government. Retailers have many valuable sources of electronic information within their data centers, as well as some external data sources:

- Customers
- Employees
- Vendors
- Shutoff lists
- Bad check writers (industry data)
- Store Incidents
- Vendor watch list (internally generated)
- Customer watch list (internally generated)
- Employee watch list (internally generated)
- High risk SKUs
- Store information
- Sales and Refunds history

Identity Focused Retailing

“Connecting the dots” between these silos of information can yield enormous benefits, but it is far easier said than done. An IT sub-industry called “business intelligence” (BI) is based on the process of extracting, cleansing, transforming, and loading data from multiple sources into data warehouses and data marts. The information is then “mined” and analyzed to determine more about the demographics and habits of customers. The results of these analyses are then used to modify existing processes for running the business. In contrast with traditional BI, Identity Focused Retailing provides a resolved view of identity and hidden relationships to existing retail systems.



Implementation Challenges

Retailers with a desire to implement Identity Focused Retailing face organizational as well as technical challenges. As each new retail system was implemented to solve a specific challenge, a new independent data store (“data silo”) was also created, causing the rise of security and ownership issues:

- Who owns the data, the business unit or IT?
- Who is responsible for securing the data?
- Who controls access to the data?

Resolution of these concerns often led to proprietary behavior in which the responsible owner felt justified in greatly restricting access to the data. While proprietary behavior is understandable, a move to Identity Focused Retailing requires access to multiple sources of data controlled by different owners. As a result, successful implementation is greatly enhanced by gaining executive sponsorship for Identity Focused Retailing initiatives early in the process.

Identity Focused Retailing

In implementing new retail systems, maintaining normal store operations is mandatory. An Identity Focused Retailing initiative can guarantee efficient implementation, maintain smooth store operations, and deliver a quick return on investment only if it does not require extensive retraining of associates, avoids modifications to POS processes, and enables flexible configuration.

In addition to organizational issues, technical barriers often exist. Older IT systems may lack external interfaces to data sources, or expose nonstandard proprietary interfaces. Technical barriers not identified and dealt with early during the design and planning stages will hinder implementation.

In evaluating any IFR solution, a key technical requirement is a technology architecture that can perform the following operations:

1. Gain access to each data source.
2. Select and apply appropriate decision-enhancing analytic algorithms.
3. Combine results from multiple databases to yield a coherent and credible decision.

An IT system supporting Identity Focused Retailing must be granted permission to access the information, appropriate security clearance to secure access, and technical programmatic access to databases (e.g., ODBC, JDBC, message queuing).

Conclusion

Identity Focused Retailing goes beyond simply assembling and analyzing the data to deliver operational business intelligence. The ultimate aim of IFR is to apply sophisticated similarity algorithms to multiple sources of data in real time and near real time, to ascertain the identity-based risks and opportunities of each customer and employee during each transaction, and to enable better decision-making in every aspect of retail operations.

Case Study: Leading Retailer

A recent implementation of Identity Focused Retailing (IFR) illustrates the impact it can have on a retailer's bottom line.

A leading retailer completed a pilot of a new retail fraud detection solution based upon the Identity Focused Retailing concepts described in this article. By using a software solution able to access multiple data sources and apply multiple analytics, the retailer was able to uncover \$15.8 million in previously undetected fraud risk in their data, including:

- \$11 million in non-receipted refunds by customers using slightly varied identities to circumvent returns policies.
- \$3.4 million in non-receipted refunds by known shoplifters; and
- \$1.4 million in non-receipted refunds by employees.

Important information related to fraud risk resided across multiple internal databases. Separate databases contained information on customers, employees, vendors, refunds, products and SKUs, shoplifters and bad check data. Prior to the implementation of IFR, existing exception-based reporting tools owned by the customer were not able to search and analyze data across these disparate sources. Trained analysts were applying tools across limited data sets, but the software was unable to score the results by relative levels of risk. Field investigators were forced to manually sort through huge written reports of potential fraudulent activity to identify worthwhile leads. An excessive amount of both false positives (leads that turn out not to be fraud) and false negatives (actual fraud that is missed) were generated.

During the IFR pilot, the retailer used a software solution that:

- applied a comprehensive approach to detecting retail fraud;
- used sophisticated algorithms and data mining analytics to find hidden relationships between people, places, and transactions;
- uncovered ways in which people tried to hide their identity or create multiple identities;
- combined these results with analysis of sales and returns data.

Approximately 89,000 employee records, 2.3 million customers with non-receipted refunds (sampling of nine months of non-receipted refunds), and 68,000 vendor records were analyzed against each other and compared to incident data such as shoplifting records. Almost one trillion record comparisons were made comprising over seven trillion individual field or attribute level comparisons, using four Wintel-based servers.

Based on the results of this pilot, the retailer decided to proceed with a full implementation of Identity Focused Retailing and continues to see a significant improvement in results over what they were achieving using existing systems without identity resolution.

Infoglide Software Corporation

Infoglide Software Corporation (www.infoglidesoftware.com) supplies identity resolution solutions to the retail, insurance, law enforcement, and government markets globally. Infoglide Software enables organizations to integrate transactional data with remote and disparate data sources to apply identity focused intelligence to operational decisions in real time. The company's IDENTITY RESOLUTION ENGINE™ enables organizations to understand the many variations of identities that exist within data silos throughout the enterprise. Incorporated in 1996, Infoglide Software is a privately held company headquartered in Austin, Texas.

*For more information about Identity Focused Retailing,
contact us at 512.532.3500 or email IREsales@infoglidesoftware.com*