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# *Technology-Enabled Customer-Centricity in the Store*



*Benchmark Report: March 2007*

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## EXECUTIVE SUMMARY

Customer-centricity doesn't come easily. And, retailers are talking the talk. In fact, a recent study by the University of Michigan indicates U.S. customers, at least, are more satisfied than ever with the quality of goods and services they buy (note this study includes insurance and other financial services industries along with "pure" retailing). A closer look reveals, however, that brick-and-mortar retailers are still barely rating a C+ in customer service. Since the epicenter of the customer experience remains in the store, we chose to begin there. Assuming that some progress has already been achieved but there is still the need for future improvements, RSAG surveyed more than 60 retailers in an effort to understand where the industry, and retail winners in particular, are placing their technology bets in in-store customer-centricity.

## THE BUSINESS CHALLENGE

Recent improvements in customer satisfaction notwithstanding, the number one business challenge cited by survey respondents, was customer complaints about their in-store experience. This was equally true for retail winners, average performers and also-rans. Consumers are complaining about their in-store experience and the Internet's social networking phenomenon makes their complaints louder and easier for their peers to hear. A new concern has emerged as well. Along with the "bread and butter" issues of shrink and concerns about consistency in store performance, retailers are very worried about data theft. Retail winners, or those who outperform their peers, are less concerned about this issue, primarily because they are better prepared.

## OPPORTUNITIES

"Bring the right product to the right location at the right time, for a reasonable price" was once the perfect formula for retailing success. In aggregate, our retail respondents still believe this is the solution to their problems, with 79 percent of respondents selecting bringing the right product mix onto the selling floor as the best opportunity available to improve the in-store experience. Retail winners, however, have a different and more modern perspective. More than 90 percent believe their primary opportunity to improve customer satisfaction is to empower and enable store employees using technology. These retailers' perceived second greatest opportunity for improving the in-store experience is to allow customers to take care of themselves in the store with self-service technologies.

## ORGANIZATIONAL BARRIERS

The survey revealed most retailers recognize they need in-store technology but they resent the cost, seeming fragility, and intellectual commitment required for these initiatives. They also worry about overall total cost of ownership and the opportunity cost associated with forgoing other non-technical initiatives that require large amounts of capital. Along with an interest in reducing costs by asking merchandising vendors to co-fund in-store projects, end-to-end managed services has emerged as a key way to overcome both cost and distraction associated with implementing and maintaining in-store systems.

## TECHNOLOGY ENABLERS

Persistent store connectivity to the home office and wireless in-store networks are foundational to technology-enabled customer centricity. Middleware, which is somewhat esoteric to a line-of-business executive, is necessary and critical to ensure future, as-yet-unknown applications will fit easily into an existing infrastructure. Sitting on top of these fundamentals are employee-facing, manager-facing, and customer-facing applications. The entire infrastructure is bathed in real-time analytics to provide timely feedback to home office and store personnel and improve store responsiveness.

## "BOOTSTRAP" RECOMMENDATIONS

RSAG believes the most important thing a retailer can do to make their stores more customer-centric is to get store management back on the selling floor while still arming management with the tools they need to sense and respond to changing situations. We propose a five-step program to enable customer-centricity in the store. These steps are: 1) getting stores connected and wireless, 2) implementing a modern POS system, 3) selecting and installing middleware, 4) bathing the entire infrastructure in analytics, and 5) the extending points of service around the store for managers, employees, and customers.



# SECTION I: OVERVIEW

## WHY THE STUDY WAS CONDUCTED

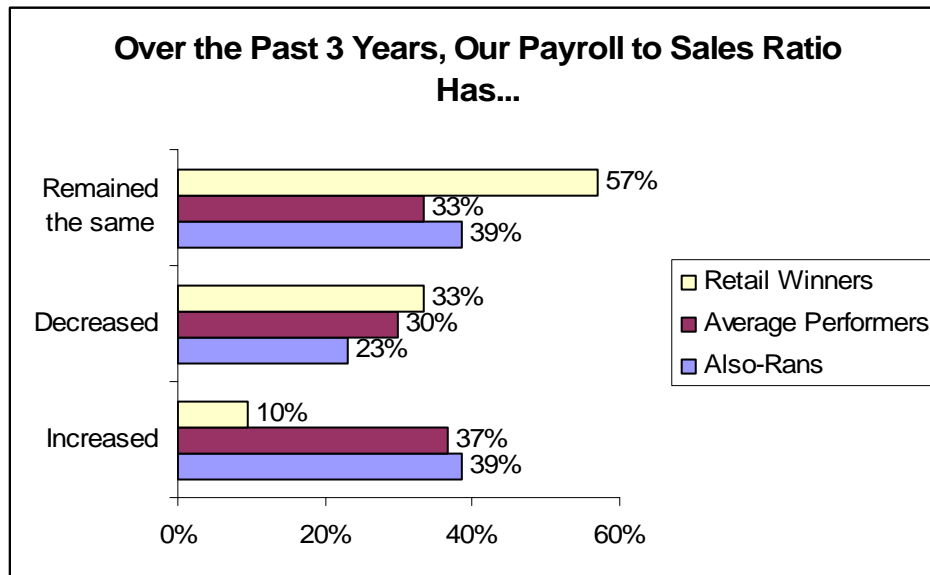
Customer-centricity doesn't come easily, and retailers are talking the talk. In fact, a recent study by the University of Michigan (The American Customer Satisfaction Index or ACSI) indicates U.S. customers, at least, are more satisfied than ever with the quality of goods and services they buy (note this study includes insurance and other financial services industries along with "pure" retailing)<sup>1</sup>. A closer look reveals, however, that brick-and-mortar retailers are still barely rating a C+ in customer service. To wit:

- The overall "satisfaction" index was 74.9 out of a possible score of 100
- On-line shopper satisfaction, rated at 81 percent, out-stripped brick-and-mortar shopper satisfaction by a substantial margin
- Several retailing segments actually experienced a dip in customer satisfaction

Attempts to drive customer centricity in the store have been successful when coupled with implementations of new technologies and strong internally and externally branded initiatives. For example, according to the same University of Michigan survey, Best Buy's well documented customer service initiatives yielded 7 percent improvements in customer satisfaction.

Given progress already achieved and the need for future improvements, RSAG sought to understand where retailers are placing their bets. We learned that just "throwing people at the problem" was not an acceptable or even effective solution (Figure 1).

*Figure 1:  
Retail Winners Hold the Line on Payroll to Sales Ratios*



<sup>1</sup> Source: American Consumer Satisfaction Index ([www.theacsi.org](http://www.theacsi.org)), February 20, 2007

Retail winners were dramatically less apt to increase their payroll to sales ratio and yet still managed to outperform their peers in comparable store sales improvements. For example, store managers at retail winners spend much less time than their peers on developing schedules thanks to tools like automated scheduling and workforce optimization. For further information on specific workforce management and optimization strategies, see the RSAG report, “[\*Workforce Optimization Benchmark Study: Boosting Store-Level Productivity and Top-Line Performance.\*](#)”

## METHODOLOGY

RSAG uses its own model, called the “BOOT,” to analyze issues in the Extended Retail Industry. This model is built with our proprietary survey instruments. Specifically, the “BOOT” methodology is designed to reveal and prioritize the following:

- **Business Challenges** – RSAG queries enterprises to help them self-identify the biggest external challenges they face. These issues provide a business context for the subject being discussed.
- **Opportunities** – Every challenge brings with it a set of opportunities, or ways to change and overcome that challenge. RSAG’s surveys ask respondents how they’re choosing to meet their challenges. We also identify opportunities missed – and describe leading edge models we believe can drive success.
- **Organizational Inhibitors** – Even as enterprises find opportunities to overcome their external challenges, they may find internal organizational inhibitors that keep them from executing on their vision. Opportunities can be found to overcome these inhibitors as well. RSAG’s surveys help respondents determine what their organizational inhibitors are and how to conquer internal challenges.
- **Technology Enablers** – The Extended Retail Industry can no longer function without a strong technology foundation. RSAG surveys question retailers about the technologies they employ to solve business challenges.

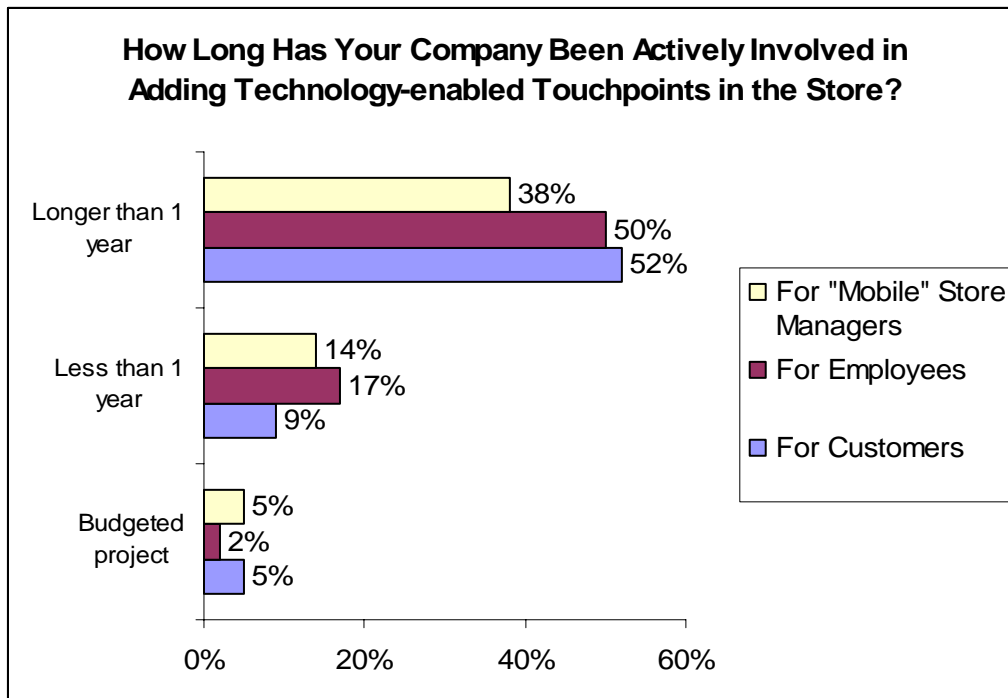
RSAG believes winning is not an accident in the Extended Retail Industry (ERI). Customers vote with their wallets. Sustainable sales improvement and successful execution of brand vision are direct results of an enterprise’s recognition of external and internal business issues, its ability to take advantage of opportunities for improvement, and its use of technology enablers to simplify and rationalize business processes. Data that emerges from the BOOT model helps us understand the behavioral and technological differences between winners and their peers.

## DEFINING RETAIL WINNERS AND WHY THEY WIN

Our definition of retail winners is straightforward. We choose to follow Wall Street. Wall Street judges retailers by year-over-year comparable store sales improvements, and RSAG does the same. Assuming industry average comparable store sales growth of three percent, we define retailers with sales above this hurdle as “winners,” those at this sales growth rate as “average,” and those below this sales growth rate as “laggards” or “also-rans.” We find that most other KPI’s fall into line behind this leading indicator.

From Figure 1, we can see that Retail Winners hold the line on their payroll to sales ratios. We also can see, from Figure 2 below that retailers have focused on improving the in-store experience through technology for some time. More than 60 percent of respondents have implemented new touch points for customers and employees, while 52 percent are implementing mobility tools for their store managers.

*Figure 2:  
A Majority of Retailers Add Technology-Enabled Touch Points in the Store*



This begs the question: *Does implementing technology itself create differences in performance, or are there other germane business issues driving business success?* Of course, the answer is yes, there is more to it than just the technology. Throughout this report, we'll highlight those critical business issues, along with technologies that have been particularly useful to help savvy retailers achieve their success.

## SURVEY RESPONDENT CHARACTERISTICS

RSAG conducted an online survey between November 2006 and January 2007 and received complete sets of answers from 64 retailer respondents. Respondent demographics are as follows:

- **Functional Area:** 33 percent of respondents represented store operations, 12 percent merchandising and marketing, 13 percent finance and logistics and 42 percent Information Technology.

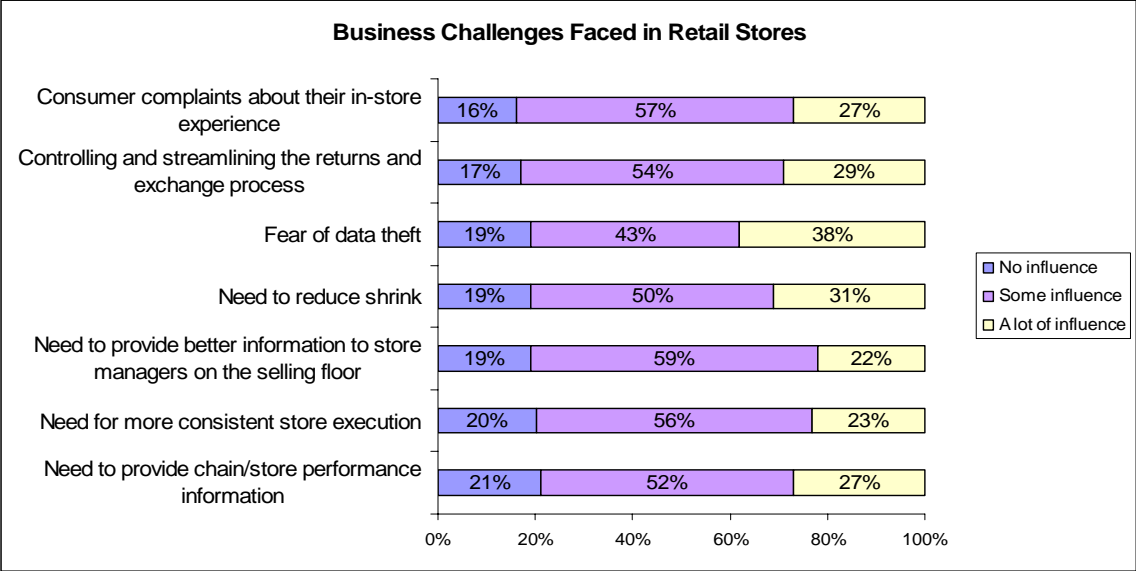
- **Job Title:** 14 percent identified themselves as senior management (C-Level) executives, 8 percent were vice presidents, 62 percent were directors or managers, with the remaining 16 percent self-identified as internal consultants, in staff positions, or part of other areas of their companies.
- **Revenue:** 28 percent of respondents had annual revenues of \$50 million or less, 9 percent from \$51 million to \$249 million, 17 percent had annual revenues of \$250 million to \$999 million, and 45 percent had annual revenues of \$1 billion or more.
- **Segments:** 61 percent of the respondents were from general merchandise and apparel (GMA), 27 percent from fast moving consumer goods (FMCG), with the remaining 12 percent from hardware/do-it-yourself (DIY) retailers.
- **Value Proposition:** Fourteen percent self-identified as selling predominantly high-dollar value, high-touch, low-transaction volume product, 25 percent self-identified as selling predominantly low dollar value, low touch, high transaction volume product, with the remaining 61 percent selling a mixture of both.
- **Year-Over-Year Comparable Store Sales Growth Rates:** Assuming average comparable store revenue growth of three percent, 33 percent reported better than average results, 47 percent reported average results, and 20 percent self-identified as worse than average.

# SECTION II: THE BUSINESS CHALLENGE

## CONCERNS ABOUT THE CUSTOMER EXPERIENCE TAKE CENTER STAGE

There’s an old saying, “The squeaky wheel gets the grease.” This certainly seems to hold true for retailers. Figure 3 highlights respondents’ biggest business challenges in stores. The number one challenge cited was customer complaints about their in-store experience. This was equally true for retail winners, average performers and also-rans. It’s interesting to note that while the ACSI reports customers have never been happier, retailers are hearing a very different message. Consumers are only marginally happy with their in-store experience, and the Internet’s social networking phenomenon has provided a forum to give voice to their concerns. Retailers are now listening.

*Figure 3:  
The World, and Retailer Concerns, Have Changed*



Similarly, cumbersome returns and exchange processes have retailers caught between a rock and a hard place. On the one hand, returns fraud is draining dollars from their bottom lines, but on the other hand, otherwise “good” customers are burdened by draconian and awkward measures to stem these losses. These customers express frustration with long lines and complicated requirements.

Also, store associates seem unable to differentiate procedurally between the requirements for returning a \$100 light fixture vs. exchanging a defective \$2.00 garden hose nozzle. While retail winners are slightly less concerned about this issue (with 75 percent reporting it as having at least some influence on them vs. 83 percent of total respondents), it’s clear that retailers as a whole have just begun to grapple with this problem.

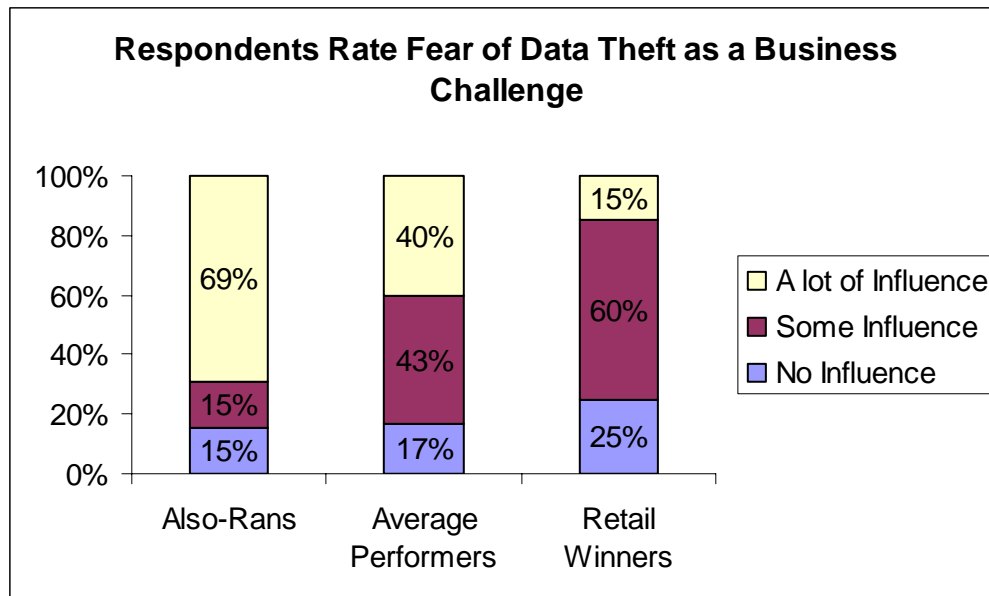
## DATA THEFT EMERGES AS A KEY CONCERN

Historically, retailers had little need to worry about data theft. As succinctly put by RSAG's CEO, "Security is not part of retailers' DNA". Credit card transactions were processed across dial-up phone lines or proprietary networks, and very little data was stored on POS or home office systems. In fact, one CIO we know used to chuckle about the subject of data security and say "What are they going to do? Steal the details of a store allocation?"

During the past decade, this has shifted dramatically. A confluence of events has rendered retailers vulnerable to theft of customer credit card and drivers' license information. These include the emergence of eCommerce, a shift to broadband connectivity between stores and the home office, the ubiquity of wireless networks, and the movement from paper check processing to debit cards. On top of these events, an increasingly sophisticated group of global computer hackers have become stunningly adept at breaking through organizational defenses. One result: the phrase "identity theft" has become part of the popular lexicon.

Interestingly, Retail Winners expressed far less concern over data theft than their under-performing peers (Figure 4).

*Figure 4:  
Retail Winners Taking Better Care of Their Customer Data*



We don't believe this is a result of a cavalier attitude about the data. We believe Retail Winners are less concerned because they are better prepared. RSAG research consistently shows that Winners do their homework across more dimensions than just product selection. They take care to insure their most important assets, their customers, are protected as well.

## **“BREAD AND BUTTER” PERFORMANCE ISSUES STILL A CRITICAL ISSUE**

Retailers across all segments and tiers re-iterate on-going themes: the need to reduce shrink and improve consistency in store execution, and get critical information into the hands of store managers.

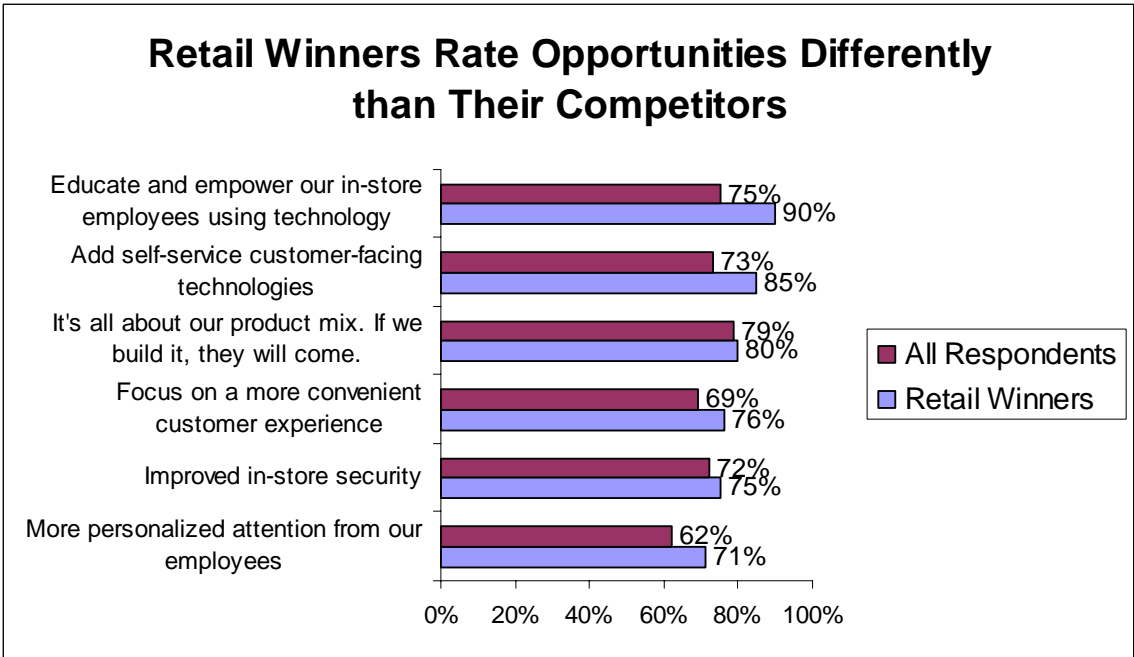
In the remainder of this report, we'll look at how they solve these challenges while they continue their quest for customer-centricity.

# SECTION III: OPPORTUNITIES

## WINNERS HAVE A SUBTLE DIFFERENCE IN FOCUS

The success formula for retailing used to be simple. Bring the right product to the right location at the right time, for a reasonable price and the customer would come. As illustrated in Figure 5, in aggregate, our retail respondents still believe this is the solution to their problems. Bringing the right product mix onto the selling floor was selected by 79 percent of respondents as the best opportunity available to improve the in-store experience.

*Figure 5:  
Winners Focus on Employees and Customers, Others Still Product-Centric*



Retail winners, however, have a different and more modern perspective. A definitive 90 percent of respondents feel **their primary opportunity to improve customer satisfaction is to empower and enable store employees using technology**. Figure 5 also shows these retailers’ perceived second greatest opportunity for improving the in-store experience is to allow customers to take care of themselves in the store with self-service technologies.

This is the crux of what RSAG calls “Technology-Enabled Customer-Centricity.” As we illustrated back in Figure 1, Retail Winners don’t satisfy their customers by throwing payroll dollars at problems. Instead, they take the opportunity to educate the employees they do have to ensure they are more effective. They don’t just leave customers to fend for themselves. When appropriate they provide customer-facing self-service technologies so that they can get their questions answered in a timely fashion.

**In the minds of these retail winners, product mix and personalized attention from employees is still important, but they believe primary opportunities lie in using technology to facilitate the in-store shopping experience.**

## **IN-STORE SECURITY DEEMED CRITICAL**

We were surprised, frankly, to see in-store security improvements ranked so highly as an opportunity to improve the in-store experience, yet our own research has shown significant retailer interest in areas like Digital Video Surveillance (DVS) (see report: [\*Digital Video Surveillance Report 2007: Utilizing Surveillance Technology - Security, Loss Prevention and Beyond\*](#)). At a recent retail industry event, RSAG Research moderated a round table that was packed with retailers interested in hearing more about the topic.

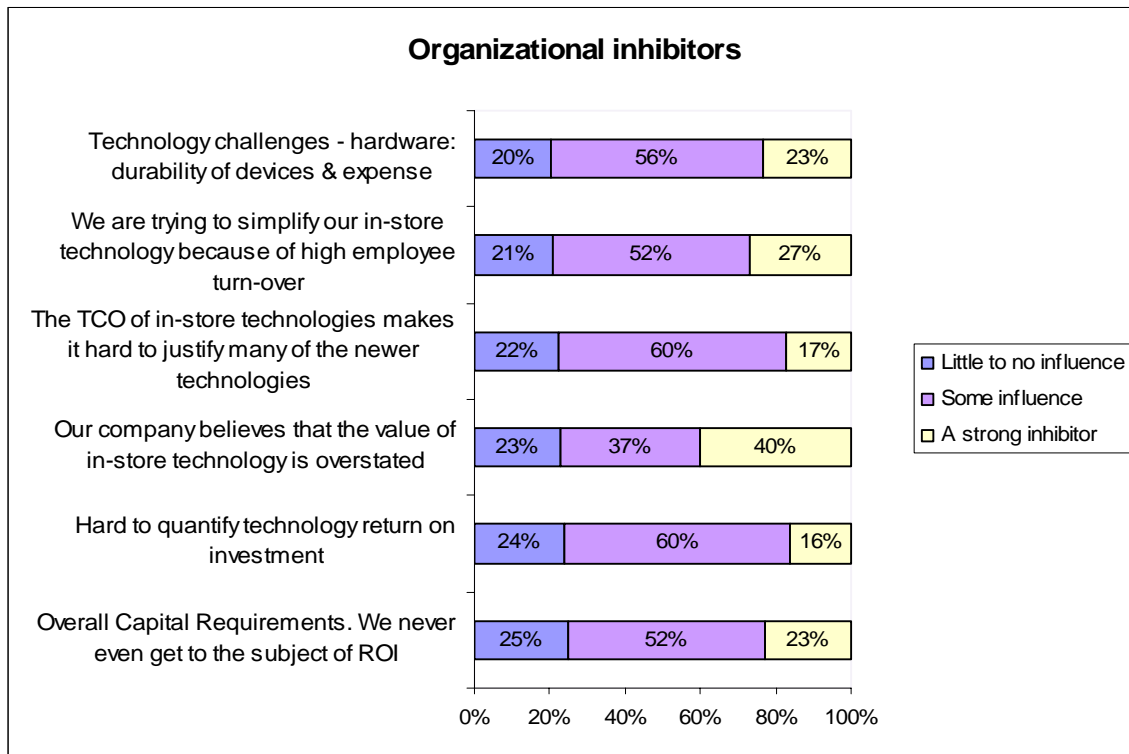
It is incumbent on retailers to solve problems like in-store security and shrink in the most non-obtrusive way possible for legitimate paying customers. Law-abiding citizens are pressured and inconvenienced every day because of the actions or threatened actions of the few. Systems that provide rapid response capabilities to in-store (or in-mall) security threats are critical to retailing's future, just as the subtlety of the solutions are critical to maintain a satisfactory consumer experience.

## SECTION IV: ORGANIZATIONAL BARRIERS

### CONCERNS ABOUT COSTS, RELIABILITY AND VALUE

At their core, most retailers still maintain mixed emotions about technology. While they recognize they need technology to expand their businesses and thrive, they resent the cost, seeming fragility, and intellectual commitment required for new initiatives. Especially when contemplating *in-store* investments, they think about distractions caused by implementing new technologies, fragility of devices, overall total cost of ownership, and the opportunity costs associated with forgoing other non-technical initiatives that require large amounts of capital (Figure 6).

*Figure 6:  
Fear of Costs, Complexity, and Overstated Value Inhibit Adoption*



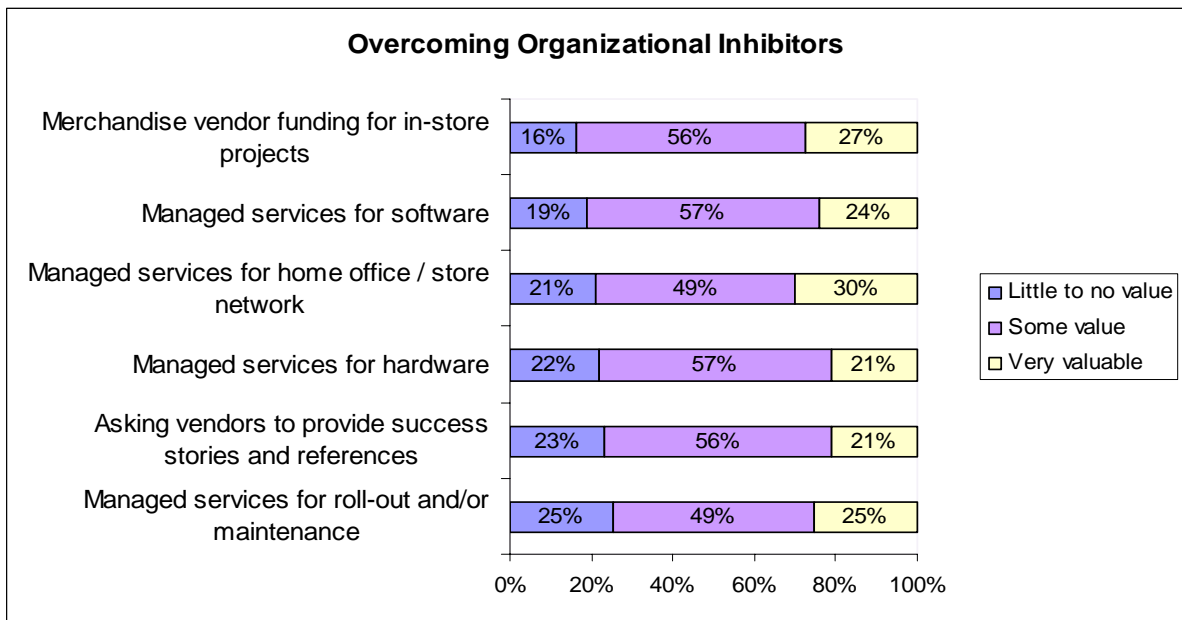
Most of the top inhibitors identified by our respondents are visceral in nature and reflect this basic mistrust. Retailers are torn. They know and have identified clear opportunities associated with bringing technology into the store, but the enemy is within. They fear these investments even as they know they need them. This conundrum has caused two types of investment behavior. For some retailers, each year projects are planned and budgeted for in-store systems but never seem to get off the ground; they drop to the bottom of the priority list and get moved to the following year. For others, projects get as far as a pilot program,

and then literally languish in pilot for years. If one asks the retailer or selected vendor(s) if the project met required hurdles, the answer is often “yes”...but still the roll-out is deferred, delayed, or otherwise just ignored.

## SIMPLIFYING MAINTENANCE AND SHARING COSTS CAN HELP PROJECTS MOVE FORWARD

Our retail respondents were united across segment, tier and sales performance on ways they could overcome organizational inhibitors. Their overarching goal: reducing costs and distractions associated with in-store systems. Figure 7 shows their expressed interest in reducing costs by asking their merchandising vendors to co-fund in-store projects. This is a logical step for any retailer selling branded product. Supermarket retailers are as likely to expect their merchandise vendors to co-fund devices delivering personalized promotions as department stores are to expect their merchandise vendors to co-fund kiosks that support cross-sells and up-sells of their branded clothing.

*Figure 7:  
Interested in Cost Sharing, Managed Services, and Success Stories*



Managed services emerged as a key way to overcome both cost and distraction associated with in-store systems. More than 70 percent of respondents agree the most successful path to implementation is end-to-end managed services: from roll-out, through hardware, network and software maintenance, retailers would prefer to leave repairs to specialists.

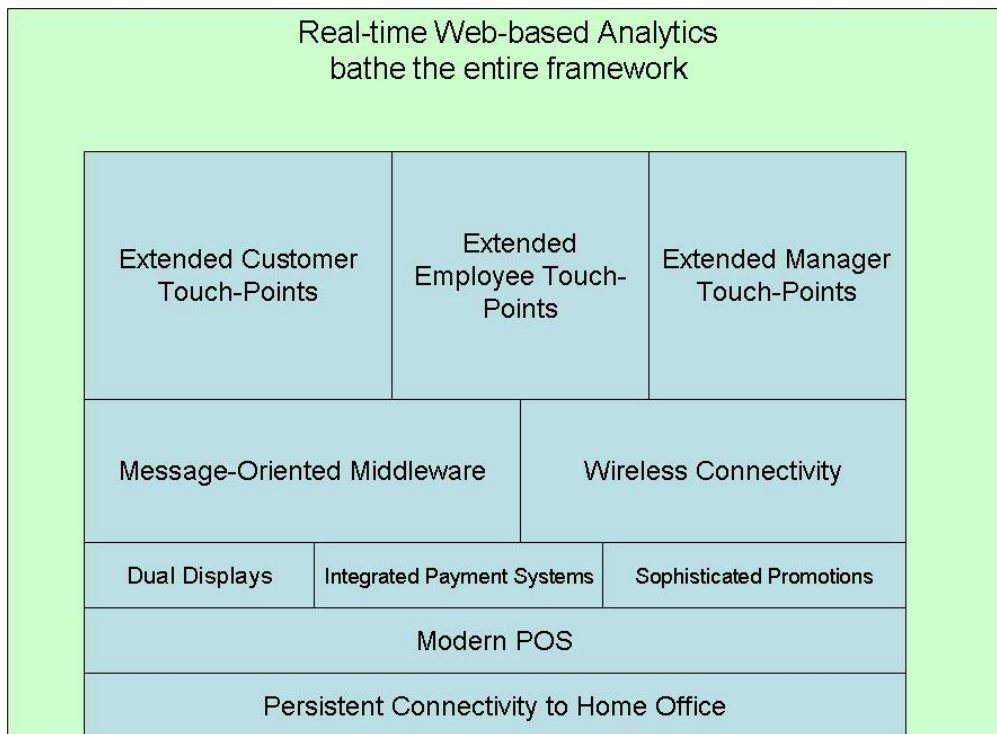
**Interestingly enough, these choices trumped pilot projects and internal project champions by a wide margin** (with only 60 percent and 57 percent respectively finding any value in either of those initiatives). RSAG believes retailers have understood that champions may fail, and pilot projects may languish, but practical solutions that eliminate both cost and distraction are more likely to succeed.

## SECTION V: TECHNOLOGY ENABLERS

### A PRIMER: TECHNOLOGY-ENABLED CUSTOMER CENTRICITY IN THE STORE

Technology-Enabled Customer-Centricity (TECC) is more than just a new acronym and more than a hodge-podge of applications scattered around the body of the store. It represents a series of building blocks that work together to improve the in-store experience for customers, employees and managers. As designed, it provides feedback loops to the home office to assist in honing and improving elements of its constituents’ experience. Figure 8 is a graphical, non-technical view of the components of TECC in the store.

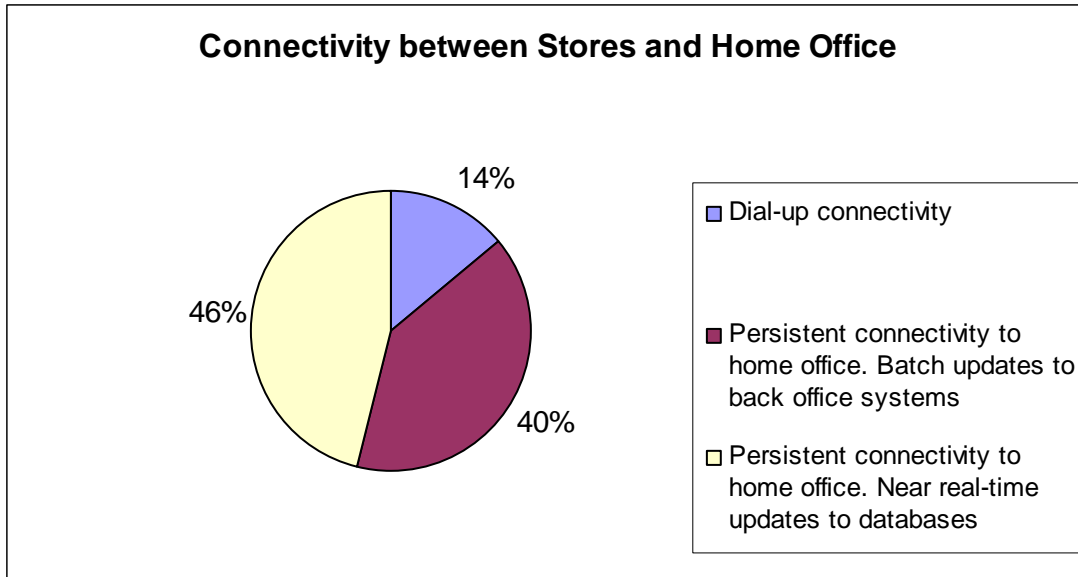
*Figure 8:  
Building Blocks for Technology-Enabled Customer-Centricity in the Store*



### THE BASICS: BROADBAND CONNECTIVITY AND WIRELESS IN-STORE

The days of dial-up connection from stores to the home office are essentially behind us. Figure 9 shows that 86 percent of all retailers have some form of persistent connectivity. This holds true for even the smallest retailers, with under \$50 million per year in revenue. More than 70 percent of these retailers also had persistent connectivity to their stores.

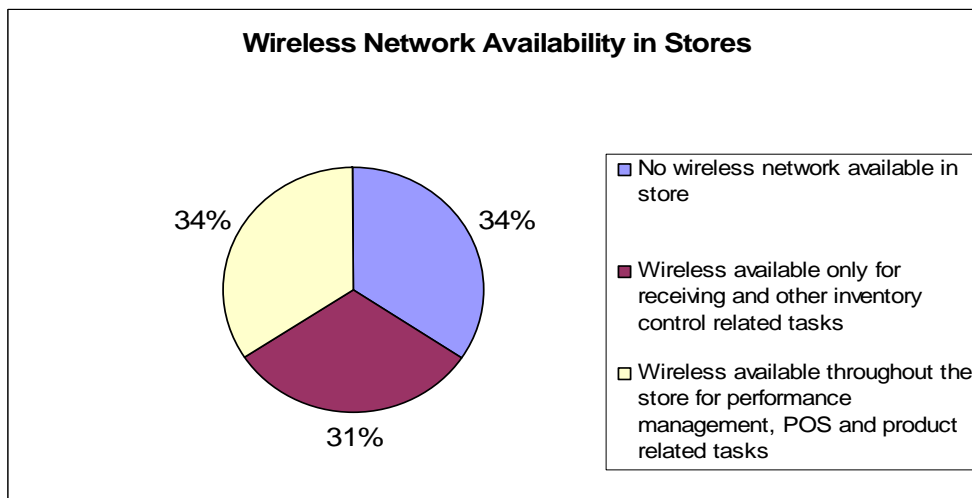
Figure 9:  
*Persistent Connectivity Now Ubiquitous*



While this may seem like the classic “no-brainer,” just five years ago, specialty retailers and category killers still used dial-up connections to the home office. Price reductions have radically changed the cost structure of persistent connectivity, and even the smallest specialty retailer can now afford to be on-line, all the time.

With persistent connectivity established, the next logical move for retailers has been stepping up to in-store wireless. As illustrated in Figure 10, wireless penetration has reached 65 percent across all retailing segments.

Figure 10:  
*A Dramatic Rise in In-Store Wireless Availability*



Only the smallest retailers lag behind, with just 50 percent of those respondents using wireless, while in larger retailers, penetration has reached 80 percent. This is in contrast to the same Aberdeen Group study in late 2005, when almost 70 percent of all survey respondents reported having no wireless in their stores whatsoever. Clearly the baseline requirements for retail store technologies have changed.

## MODERNIZING AND EXTENDING POINT OF SALE

A modern POS system is the next critical building block for Technology-Enabled Customer-Centricity. Our Retail Winners agree, with 75 percent identifying it as a key technology enabler. While it is not impossible to extend points of service out into the store with an old-generation POS system, a retailer will definitely incur greater costs and complexity in doing so. Duplication of programming efforts to replicate functionality across the body of the store and extra, complex integration points will create additional burdens on vendors and in-house IT alike. This, of course, translates directly into additional project costs. Differences in user interfaces from POS to extended points of service will create the very obstacles to learning that our retail respondents fear. In effect, without a modern POS system, a retailer will create a self-fulfilling prophecy of onerous expense, time, and effort.

While it is true that some technology enablers identified by retail winners, such as *dual displays at POS* (85 percent), *Point of Purchase digital displays* (85 percent), *integrated payment systems* (70 percent), *personalized promotions* (80 percent), and *biometric payment devices* (85 percent) can be implemented with older POS systems, the resulting tangle of “spaghetti programming code” becomes harder and harder to manage and maintain.

## AN INTEGRATION FRAMEWORK: TYING TOGETHER DISPARATE POINTS OF SERVICE

Just as homeowners have to consider reinforcing the foundation of their house when they decide to re-model or build a second story, retailers also have to think about underlying architectural components of their in-store infrastructure as they contemplate moving points of service out into the body of the store. This can be frustrating and difficult to explain. Line-of-business (LOB) users have little patience with terms like “*store-level message oriented middleware*,” yet 80 percent of our respondents recognize the importance of this middleware as the glue that will hold their disparate in-store applications together. This was consistent across corporate functions including merchandise managers, finance, procurement and IT. In store operations logistics, a majority (more than 50 percent) expressed an understanding of the importance of this seemingly esoteric function.

The bottom line: without a scalable and extendable integration framework that ties disparate architectures together, retailers will be scrambling to integrate the “next big thing” into their in-store system portfolio.

## **EXTENDED TOUCHPOINTS FOR EMPLOYEES, CUSTOMERS, AND MANAGERS**

RSAG’s research has consistently shown the top-line value achieved by getting store managers back onto the selling floor. A plethora of portals, dashboards, alerts, e-mails, instant messages and reports have tethered many store managers to their back office computers. Of course, it would be foolhardy to suggest that this valuable information be taken away from store management, and, in fact 81 percent of our respondents identify the need to bring this information out onto the selling floor as a critical business challenge. This is the critical value of mobility, or wireless, within the body of the store. Arming store managers with this same information, but making it available to them on the selling floor provides the best solution for retailers. Store managers can wait on customers, mind their employees, and communicate important information back to the home office without returning to the back room.

Customer-facing technologies in the body of the store are still in their infancy but hold enormous promise for the future. Eighty percent of our respondents see value in “check-in” technologies like mobile self-scans or cart-mounted devices. Similarly, 77 percent believe customer-facing self-service touch points providing information on product features and benefits, recipes, and other usage tips will enhance and improve the customer experience. We continue to believe delivering information to customer-owned devices will become a critical requirement – one that springs up seemingly overnight. Our retail respondents agree, with 80 percent believing this technology enabler is in their future.

The seemingly intractable challenge of employee churn demands that retailers find ways to make employees more productive faster. Providing training, product, and customer information to employees can only serve to improve the employee and customer experience alike. Nothing is more frustrating to consumers than talking to employees who know less about the products they are looking at than they do. Seventy-five percent of our retail respondents recognize the importance of educating and empowering employees through use of technology.

## **REAL-TIME WEB-BASED ANALYTICS BRING IT ALL TOGETHER**

Once the in-store infrastructure is built and tied to the home office, retailers can begin to make sense of the data they receive in near-real time. They move from a reactionary mode to a “sense-and-respond” model. Analyzing current performance can help retailers create more accurate predictions for the future. The “sense-and-respond” retail organization can work in concert both with its internal and external suppliers to reduce out-of-stocks and also ensure that customer expectations on pricing and promotions are met.

Along with creating a more customer-centric environment, real-time web-based analytics can help solve the other major challenges retailers face, including the problem of shrink (through real-time sales audit and digital video surveillance), evaluation of store performance, and the need for more consistent store performance. Real-time analytics are also critical to solving the challenge of returns management in a customer-friendly way.

## SECTION VI: BOOTSTRAP RECOMMENDATIONS

### GET STORE MANAGEMENT BACK ON THE SELLING FLOOR

In a perfect world, our overarching recommendation would be to build in-store systems from the foundation outward, similar to the model we described in Section V, but we are aware that reality intrudes. The business of retail must continue and customers expect to be serviced today...not three years into a “perfect” implementation. Retailers are nothing if not pragmatic. However, too much pragmatism leads to infrastructures that don’t extend. Inextensible infrastructures translate very directly into wasted time and money: software maintenance money spent keeping up separate programs that do essentially the same thing, integration costs force-fitting unlike applications together, and patching together outdated hardware and software to accommodate state of the art payment systems. Our recommendations therefore contain a mix of pragmatism and strategic vision: customer demands are only going to increase and the rate of technological change is not slowing down any time soon.

**RSAG believes the most critical step a retailer can take toward becoming more customer-centric is to get store management back onto the selling floor.** Managers and employees are a retailer’s most important, and often most ignored assets. The world’s best product won’t sell if a customer can’t find it, and customers will not accept long check-out lines manned by untrained store employees. However, store managers can’t return to “flying blind” on the selling floor. They still need critical information to help them sense and respond to problem situations.

Once store managers are equipped with the tools they need, a retailer will have the flexibility to add systems and tools for employees and customers. We certainly recommend retrofitted improvements to infrastructure at the same time, as outlined below.

### STEP ONE: GET CONNECTED AND GET MOBILE

Most readers have already made the leap to persistent connectivity. The next most important step a retailer can take is to go wireless across the entire store. Wireless connectivity is critical to providing tools to store managers, associates and customers. Further, additional touch points can be added throughout the store without the expense of updating blueprints, getting permits, and running new cables. Of course, installing wireless networking in the store requires a bit more security than installing it at home. Be sure to follow the most up-to-date security practices and validate your installation with professional security experts.

### STEP TWO: INSTALL A MODERN POS SYSTEM

We give this advice knowing the cost associated with a full POS roll-out. However, 15-year-old POS hardware and software can only take a retailer so far. Open, standards-compliant POS hardware and software will provide the base upon which the customer-centric store will

ride. A well architected POS system will provide functions that will be used in other in-store applications, and will accept new hardware like dual displays far less painfully than older suites.

### **STEP THREE: SELECT AN INTERMEDIARY – MIDDLEWARE**

The last thing most retailers want to hear about is a seemingly esoteric topic like “message-oriented middleware,” but middleware matters. It simplifies communication between software applications much like a universal translator might simplify communication between people from different countries speaking different languages. Without middleware, every new software application has the potential to introduce an entirely new language into the IT shop’s mix, necessitating the hiring of the software equivalent of a new interpreter.

The implications are staggering. Imagine being at a party where the majority of the guests speak French. Someone new enters the party speaking a language no one in the room knows. The host goes next door and manages to find someone who speaks the language of his new guest. Unfortunately, that person speaks no French, their other language is German. So an additional interpreter must be found to translate from German to French, just so that everyone can now start talking to each other. If more guests come speaking additional languages, the whole process would have to be repeated again. Pretty soon the party becomes cacophonous, with guests searching for the right interpreter so that they can converse with each other.

Good middleware solves this problem, and that’s why it’s important. New applications will be brought into the store and home office over time. Middleware is necessary to ensure these new applications can talk to the existing infrastructure.

### **STEP FOUR: BATHE THE INFRASTRUCTURE IN ANALYTICS**

Once foundational elements are in place, retail winners will turn the mountains of data generated by store activities into business intelligence. Real-time or near real-time analytics delivered into the hands of store managers will help them adjust to changing situations and keep the store on track. The subject of business analytics is beyond the scope of this report, but its usage extends from product intelligence, through customer analytics and potentially personalized promotions, to loss prevention and fraud detection.

### **STEP FIVE: EXTEND POINTS OF SERVICE TO ALL CONSTITUENTS**

Once a retailer has completed steps 1-4, it is more or less ready for new technologies coming down the pike. Points of service can be extended to employees and customers, without fear of major service disruption. Most importantly, by following this step-wise foundational approach, the store manager will be back on the selling floor quickly, ensuring the store and its employees are ready to provide a satisfactory or exemplary customer service experience.

Technology change continues to occur at breakneck speeds. The consumer is more empowered and educated than ever. Retail winners will make their stores destinations where consumers gain value. For some retailers, that will mean providing as much self-service convenience as possible. For others, it will mean greeting a customer by name and remembering favorite brands, sizes, and colors. In all cases, it will mean providing an experience that focuses on satisfying the customers' expectations.

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RSAG (Retail Systems Alert Group) is the leading provider of objective, high-quality information resources for the Extended Retail Industry (ERI). We have followed the advancements of technology and business process innovation in this industry for almost two decades, and we deliver our insights and analysis through high-value conferences and tradeshows, publications, research, training, and Web-based services. For more information, visit [www.retailsystems.com](http://www.retailsystems.com)

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