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# *Utilizing Surveillance Technology – Security, Loss Prevention and Beyond*



## *Digital Video Surveillance Report 2007*

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## EXECUTIVE SUMMARY

Retailers gain an understanding of their business operations by analyzing transactional records that result from human activities. For example, a point-of-sale transaction is simply an electronic proxy for a customer's purchase experience. Merchants study customer preferences by examining "affinities" in purchase behavior, i.e. the statistical relationships between the different products, or the effect on non-promotional product sales of a promotional campaign. However, they examine this data blindly. Visual information is still mostly gathered by word of mouth from the store operators themselves, or from mystery shoppers. It is the amalgam of business intelligence based on analysis of digitized transactional data, observations from "objective" third parties and the experience of store operators that drives operational decision-making in retail today.

Digital Video Surveillance Technology affords retailers a new opportunity to learn more about what really takes place at all points of the in-store experience. As such, the intelligence gathered from digital video is beginning to emerge as an important tool in the retailer's data arsenal. Distribution centers, shipping and receiving areas, store back offices, employee break areas, cash wraps, the selling floor, and store entry and exit points are all candidates for the use of digital video intelligence. Adding digital video capability not only enables centralized security monitoring from a remote location, but also systematically improves enterprise-wide processes. Understanding how the physical design of the store, the merchandise space plan, and the utilization of the workforce improves upon or detracts from overall store performance can drive continuous process improvement. Yet throughout the extended retail industry, the information that the technology generates is only beginning to be used to make more effective business decisions.

Retail Systems Alert Group (RSAG) interviewed several retailers to understand their usage of digital video surveillance. While cameras remain the primary and most visible component of a digital video surveillance solution, centralized digital mining capabilities to improve merchandising decisions represent the biggest near-term opportunity. Case study respondents eagerly await the day when all digital monitoring takes place from a centralized and remote location – effectively taking the value of video "out of the back room" and "onto the sales floor."

### **"BOOTSTRAP" RECOMMENDATIONS – A VISION FOR THE FUTURE**

Digital video technology, when viewed simply as an alternative to older analog video surveillance systems, has some tactical advantages but misses the real opportunity that such technology affords. Digital video technology can have strategic importance to retailers, since it creates digital video data that can be captured, stored, and analyzed to understand how the physical design of the store, the merchandise space plan, promotional campaigns, and the utilization of the workforce improves upon or detracts from the customer experience. Relatively simple ideas like using the information to discover an accurate customer conversion rate are offered by our case study interviewees.

The loss prevention professionals we spoke with expressed desires to work with their peers in Marketing, Merchandising, Store Operations, and Information Technology to discuss how digital video data can become an asset for the entire retail enterprise. Our interviewees recommend a "walk before you run" strategy: first, augment the company's current merchandise planning and services design by using the new information. Secondly, use the new information to examine how consumers are using the store (for example, are different points of entry busier at certain times of the day?). As a third step, analyze the digital video information to fine tune workforce scheduling.

Another common theme throughout their replies is the need for improved industry-wide standards for the new technology. Privacy concerns are also top-of-mind issues. As municipalities impose varying regulations upon retailers regarding the use of digital video, all call for better representation by retail trade organizations in Washington.

RSAG recommends that any discussion of adoption of new digital video surveillance technology should include creation of a cross-functional task force, tasked with identifying value-add uses of the information that the new technology is capable of creating. A roadmap for the adoption of new technologies, with parallel business benefit realization, should be developed. This roadmap, and accompanying ROI analysis, can then be presented to the executive team for prioritization.

# SECTION I: OVERVIEW

## WHY THE STUDY WAS CONDUCTED

Surveillance technology offers those in the retail industry a prime opportunity to learn more about what takes place within the four walls of their business – and beyond.

Retail Systems Alert Group (RSAG) initiated the Digital Video Surveillance Study 2007 to provide better understanding of the industry’s early thoughts and ideas about the technology. While the capability and functionality that DVS offers retailers is clear, we wanted to talk to those who are currently using digital video to determine not only how they use these systems today, but what plans they have for the technology in the future – and what potential impact it can have on their operations.

## THE BUSINESS CHALLENGE: THE INTRACTABLE PROBLEM OF SHRINK

Shrink is a cold, hard reality of retail. And internal theft consistently represents almost half of all retailer shrink. In fact, the reason retailers began pricing goods at uneven integers (like 99 cents) was to force employees to utilize the cash register – evenly priced tags presented too much of an opportunity for sales associates to quickly doctor up some math, provide the customer with a total price from top-of-mind, and pocket the remaining cash. With a 99 cent price point, employees were forced to open the cash register to “make change.”

Through the ages, retailers have employed ever more sophisticated systems to combat losses from sweethearting, cash losses, credit losses and fraud losses. Yet motive and opportunity will never be squelched, and retailers continue to feel the hit. Shrink remains constant. The eyes looking out for the best corporate interest simply cannot be in all places at all times – or can they?

In the early 1980’s, a new technology emerged which promised to become those very eyes. VHS became the medium on which to record and monitor daily activities within the retail application, and Closed Circuit Television (CCTV) became a powerful and popular tool for retailers to monitor critical, high-incident areas of the store. Retailers had new reason to believe they could mitigate losses, and invested heavily as a result. Yet proprietary CCTV systems required big investments in hardware, storage, training and education for monitoring personnel, as well as large time commitments from dedicated security agents. The amount of data storage and man-hours required rendered CCTV “somewhat useful,” if not a bit impractical. Additionally, CCTV’s only realistic usage, simply due to the limitations of analog equipment, was for event-driven loss prevention purposes, at best.

Today, new standards-based digital video technology opens up a sea of opportunity for retailers. By enabling enhanced video content analysis through a digital medium, these solutions offer superlative functionality in loss prevention – and beyond. But most retailers have already invested large amounts in CCTV, and need assurance that digital video will maximize their existing systems and, even while still in its infancy, **hold the potential to do more.**

## OPPORTUNITIES

Unlike the analog video equipment of the past, new digital technologies can be integrated into the overall technology architecture of a company, delivering a new form of digital information for subsequent analysis. These technologies reduce the labor requirement of their analog forefathers. Their analytic capability cuts down the time and money associated with CCTV. But what about opportunities **beyond loss prevention**?

Most retailers remain skeptical about the value that digital video surveillance technology can currently provide past LP. Yet retail winners are finding creative ways to drive additional benefits and move the focus of such technologies beyond loss prevention (i.e. “cost control”) to value creation (“revenue generation”). These opportunities are often found in improved in-store marketing effectiveness, customer traffic flow analysis, and workforce optimization.

## ORGANIZATIONAL INHIBITORS

Virtually all potential technology expenditures are contingent on proving rapid Return on Investment (ROI). Video surveillance technology has been justified in the past primarily as a loss prevention tool, in detecting theft and fraud, and analysis of slip-and-fall claims. Most loss prevention departments report directly to the CFO, and the focus is on cost control rather than value creation. The ROI for digital video surveillance may prove difficult to define, particularly if the technology is viewed simply as a replacement for “legacy” analog video systems. Until the use of digital video information for merchandising and marketing effectiveness begins to be realized, the business case for digital video surveillance technology can be difficult to prove.

As we set out to discuss the technology with case study subjects, one hypothesis we sought to test was the notion that IT professionals are adverse to the internal and cultural change required to adopt new digital systems. Changing cultures within an organization is never a small feat, and requires a clear, pre-established vision and course of action.

Network infrastructure itself is a common internal inhibitor, as the bandwidth required for optimization of such a system is considerable and may be currently beyond the capacity of many retailers. Here again, the need for an ROI case is critical. Pilot tests using digital surveillance for more than just loss prevention can often cost-justify the extra bandwidth required for new features. One retailer we spoke with was able to justify extra bandwidth by investigating why department sales in a particular store were below the rest of the chain. A visual inspection by video revealed that the merchandise was hidden behind a large column. Adjusting the planogram drove an increase in sales, and justified the cost of the project.

## TECHNOLOGY ENABLERS

Legacy analog video systems were proprietary and stand-alone in nature. Systems were bought as a package, with few 3<sup>rd</sup> party options for either parts or upgrades. Retailers depended on a single source (usually the manufacturer or a value-added reseller) for continued support of the technology. By comparison, new digital video equipment is standards-based, meaning that it can be attached to the company's internal IP (internet protocol) based data network.

As a result, **digital video's open network architecture is actually its most valuable asset.** The infrastructure required to adopt this technology is indeed, expensive; but unlike its analog predecessors, **this investment holds value for the entire enterprise.** Its cost can no longer be viewed as a pricey prerequisite for yet another loss prevention toolset, but rather as an investment which can bring about improved processes throughout every aspect of the store. The potential is enormous:

- It gives visibility into better merchandising and marketing techniques.
- It gives vision into ways to improve store safety, reduce shrink, and verify or negate existing processes.
- It is, quite simply, a tool that requires retailers to bring about the changing technology – the digital infrastructure – to finally SEE how to best protect and operate their most valuable asset: the store.

The following case studies were conducted with three winning retailers to learn how they are leveraging this technology to better protect and operate theirs.

## CASE STUDY CHARACTERISTICS

RSAG conducted interviews with three retailers from November – December, 2006. All are retail “winners,” and operate a well-known brand on a domestic, national level. In the interest of providing quality information that may be sensitive in nature, each will remain anonymous throughout this report.

# CASE STUDY #1 – DEPARTMENT STORE RETAILER

The first case study is a division of a large department store conglomerate operating in the United States. The company has been utilizing digital surveillance tools since 1997 in all of its stores, and had previously used CCTV systems for many years.

## BUSINESS CHALLENGES – SECURITY AND LOSS PREVENTION

*When asked to define a primary challenge the company is using digital video to overcome, the retailer cites security at the Point Of Sale and physical security. “We’re definitely using it for improved capabilities and to replace systems in a way that they last another 10 years. We’re also looking for an improved arch from digital video... it’s supported more directly by information technology; it’s not just a loss prevention system. We’re really looking to improve our network of video.”*

*When asked to identify additional business challenges that can be addressed (i.e – leveraging the solution to create new value), the retailer ranks its priority list as follows:*

- 1. Merchandise Effectiveness
- 2. Customer Traffic Flow Analysis
- 3. Workforce Management

At this point, stability and reliability outweigh functionality. “Once you’ve established those, then you can look to merchandising and store flow. But until it’s stable, you can’t get into any of that. Our opinion is that digital video is now stable enough to begin testing.”

## OPPORTUNITIES

### Monitoring the Cash Wrap

*When asked what areas of the store can benefit most from the use of digital video technology, the retailer cites checkout as the primary locale. “We already integrate our POS data with video, so we can do data analytics and attach it to video at the POS. We already use it, see its value, and from a loss prevention perspective, it works quite well.”*

Additionally, “Once it matures, cash areas will benefit from establishing norms. Also, for inventory, if we could follow the life of a certain product from the receiving dock through to checkout, even just to establish time lines that would be a plausible use.”

### Emergency Operations

*When asked what additional value the retailer would like to see most from emerging technologies, the retailer cites risk technologies. “There’s an opportunity to deliver affordable risk technologies... anything that can help to run an emergency operations center, or a crisis command center. Right now that’s a very high end business.”*

The retailer also says that this functionality does dovetail into existing video solutions. “We always start with the envelope of our building. We make sure that our team member entrances, docks, and customer doors first have video and then have an available port or channel to be recorded digitally. Then we work our way in to POS, cash office, until we run out of ports. Now that we’ve got it running safely on the WAN, we can remotely monitor our stores from an emergency operations standpoint, because now video’s on the network.”

### **Traffic Flow, People Counting and Conversion Rates**

In regards to traffic flow, this retailer observes, “Understanding traffic flow is very important. If video analytics can address customer traffic flow in the near future, that will be very helpful. Not to sell what it can do, but what it does do reliably for us, and that includes people counting. Simple people counting is often overlooked as a real opportunity.”

This retailer believes that opportunity generation may quickly result from simple conversion rates. He observed that information that drives security benefits can also drive sales as well. For example, “You’ve got 5 doors, and between 12:00 and 4:00 PM, 2 of them are where all foot traffic comes from, yet you’ve got your POS clerks at the other 3. Good loss prevention tactics are sales-driving tactics.” It is both a good customer service and security practice to have personnel and security focus where the customers are actually walking.

## **ORGANIZATIONAL INHIBITORS**

### **Driving ROI With Partnerships Between LOB and IT**

*When asked to identify internal inhibitors*, the retailer cites the perception that digital video surveillance technology is expensive without enough ROI. “A lot of the ROI is difficult to put in a format that everyone agrees with. The thing about risk technologies is nobody wants to pay for them until they are needed.”

Yet the retailer also believes that a proper IT alignment may lessen this inhibitor. “The idea typically comes from an outside business partner source like loss prevention. So bringing this into the network, if it wasn’t IT’s idea and not in their current workload, it may be an uphill battle. Not to say that IT doesn’t understand it, but you’re introducing something foreign.” The retailer says that in such a case, IT’s reaction may be that of: “Who are you? Why are you doing this?” A cross-functional team comprised of IT, line of business, and decision makers may well aid the internal acceptance of a digital video surveillance solution.

### **Leveraging Legacy Investments**

Investments in old technology are also hard to overcome. “There are a lot of us out here who have a significant amount of money invested in analog equipment, and we need to continue to use that equipment until the day it dies. So this becomes about the quality of a shot you can get with your analog equipment. This means camera angles have to be exact. If our equipment is in legacy locations, and for video analytics, the camera must be no higher than 11 feet, we don’t have the money to go out there and move all our cameras. So the real question is how accurate can digital video analytics get with old equipment, or is this going to be a new installation only scenario? That’s the true test.”

The retailer states that one of the major advantages to this technology is that it's helping to utilize legacy analog equipment. "A lot of infrastructure has been invested over the past 10 years to support digital video. So a camera over every terminal, every door, every POS register – that's a very realistic goal. The great part is while upgrading to IP, we're still able to access our analog while preparing to go down the IP journey and future technologies. That's why we've chosen digital video."

## TECHNOLOGY ENABLERS AND LESSONS LEARNED

### Focus on Redundancy, Avoid "Black Boxes"

*When asked to provide advice to others in a similar situation*, the retailer suggests that any retail company focus on a system's core offering. "It's about redundancy. It's about hot-swap ability. It's about ease of replacement. It's about components."

The retailer also suggests caution when purchasing either "a box" or proprietary software. "Buying a box means you've essentially married another vendor. If any of the system's ports go bad and need servicing, you'll lose any other cameras that are on that system as well. If you really want to do this, buy it so that a minimum amount of ports go down at any time due to system failure. And be very clear in how long this vendor's going to support this equipment, how they're going to handle upgrades, versions of software." In this caution of selecting a strategic vendor vs. a practical vendor, the retailer points to service contracts as a potentially hazardous component of digital surveillance systems. "If you get 60 stores up and running on a system like this, a poor service contract that comes up for renewal could make the system completely cost-ineffective."

### Define Partnerships and Responsibilities Early On

*When asked to provide pitfalls other retailers should be wary of*, the retailer suggests a firm definition – early on – of IT and network partners. "They are not necessarily one and the same across all organizations. Get people in early on what impact this will have on the network, because it's typically not a lot, but it sure sounds like a lot when they find out 45 days down the road and you've already got a system in."

In regards to POS integration, the retailer cites the importance of having in-house staff that can ensure connectivity during POS upgrade.

The retailer says that additional capabilities may not be maximized for some time to come. "That said, once you go IP, your ease of expansion is night and day better than where we are today. And that's very important. What we'd like to do is get set up on a foundation and start testing and then deliver results that are credible because we've actually seen them work."

As final advice, the retailer offers the following: "The best things happen when everybody owns their part of this pie. When the network people care about the quality of the video on the network, and the POS team cares that you have your connectivity, and the IT team cares about all the things that RSAG described that it was looking at in systems like this – when it's not seen as a loss prevention system, then it's effortless. Then it's a true prototype."

# CASE STUDY #2 – LARGE SUPERMARKET CHAIN

The second case study was conducted with a large U.S. food & drug supermarket chain utilizing digital video in all of its stores.

## BUSINESS CHALLENGES – LOSS PREVENTION & RISK MANAGEMENT JUST THE BEGINNING

*When asked to define a primary challenge the company is using digital video to overcome, the retailer cites the ability to use digital surveillance for more intelligence than its current uses: loss prevention and risk management. “Everybody’s got the best box, but getting it integrated into the network to be a tool, rather than at a standalone location – that’s the real issue. I think digital video needs to be looked at as a management tool. Loss prevention has had ownership of it in the past because of the theft issue, but in our company, another really significant user is our risk management group for slip detection - debunking fraudulent claims for slipping on water that wasn’t on the floor. So the two heavy users have been loss prevention and safety. But when you look at the capabilities of the system, we should be using the technology for many more things than we are.”*

*When asked to identify additional business challenges that can be addressed (i.e – leveraging the solution to create new value), the grocery retailer ranks its priorities just as did the previous retailer:*

- 1. Merchandise Effectiveness
- 2. Customer Traffic Flow Analysis
- 3. Workforce Management

## OPPORTUNITIES

### Understanding Traffic Patterns

*When asked what areas of the store can benefit most from the use of digital video technology, the grocery retailer cites the variance from one type of store to another. “In a grocery store it might be the meat department, but it’s really about how people shop. What’s the pattern? How do they shop in your store? Where do you put perishable items compared to other things?”*

With more precise and detailed traffic information derived from video cameras, workforces and tasks may be allocated differently across stores in the chain. “An example would be an inner city store that does tremendous business, and receives the same maintenance hours that another store gets because they have similar overall revenues. Yet people’s basket sizes are different and traffic patterns may vary. If you have a store with a \$50 basket and one with a \$100 basket, in the \$50 store you’d have twice as many people shopping. So the store gets more beat up. It takes more to maintain that store, not because people are trashing it, but because it gets that much more traffic.” Video analysis helps determine actual traffic counts.

## **Event Analysis and Merchandise Analytics**

The grocer also points to event analysis. “If you have a high theft item, the people who are stealing have very different motion than regular shoppers. Using the video to identify normal behavior as you track a product – not the person – is enormously advantageous. I think the merchandising opportunities are gigantic, and that ties right into sales. An example would be children’s books. Many companies used to put kids titles on the lowest part of the rack for children’s sake. When they actually studied how people shopped they found that it’s the parents that buy the books, and when they moved them up into the middle of the racks they sold more books.”

Video analysis, when coupled with market basket analysis, equips store planners with far better information for decision-making. The retailer went on to say, “I really think from retail and the supply chain, the merchandising opportunities are endless. You’ve got big sales and items that fly off the shelf. All of a sudden the shelves could be empty from all the motion, and even if you have an automatic replenishment system, it’s still all floating in the stores and hasn’t gotten to the register yet. But if you put the right type of intelligent video on that endcap, it could trigger an alarm that the cap is empty and needs to be built back up.”

## **Monitoring the Pharmacy and Other High Risk Areas**

The grocery retailer also notes heightened areas of concern. “Pharmacy’s always a concern because of the regulatory aspect, as well as the fact that there are always people looking to rob pharmacies. When we’re involved in putting video systems in retail locations, we always tell people that you have to start on the outside and work your way in. Part of that depends on looking at the site, looking at the physical property. You can argue all day long the pros and cons of having cameras outside, but you may be looking at exterior cameras, then the perimeter. You must protect the holes in the building. Make certain you get the faces of the people going in and out. The docks must be covered as well. Then you move inside to cover the areas of risk, such as your cash office, your register lanes, your pharmacy if you’ve got one, and if you’ve got anything left over you go to your sales floor, starting with such high-theft items as meat, health and beauty items, and electronics if carry them.”

## **ORGANIZATIONAL INHIBITORS**

### **The Existing Technology Infrastructure and Getting Executive Support**

*When asked to identify internal inhibitors*, the grocery retailer cites the lack of expertise enterprise-wide in utilizing the information collected from digital surveillance. It also views the lack of technology infrastructure to support the solution as a temporary roadblock – something it will soon overcome.

Interestingly, the grocery retailer does not see resistance from IT as a significant inhibitor – in stark contrast to the retailer from the first case study. “If the right people approve it, it doesn’t make any difference what everybody else says. In our world it’s the division president who would need to understand the value. But most of them do. Most of them get it. They understand that it’s a day-to-day tool and that it’s not just a loss prevention tool.”

The retailer offers an anecdote to support this notion. “When we had our first full digital video system covering every lane in stores, we took the company president to look at one of the stores. While we were waiting for him to get there I asked (the store manager), ‘How often do you use this system to go back and research somebody claiming that they didn’t get all their products in their bag – that they got home and one of them was missing?’ She told me it was very frequently, and pulled out a basket with a bunch of paper slips to prove it. She told me that it happens multiple times a day, and that in the old days, the store would have turned the majority of cases. But now we’re finding out that most of them are true. So it’s been a huge customer service benefit, as well.”

The retailer believes that the technology is already capable of more than it is used for, and that bandwidth is the next real concern. The realization of feasible bandwidth will lead to the opportunity to survey all stores from a remote location, thereby reducing the number of loss prevention agents needed in-store. “Right now, you also have the issue where with a lot of municipalities, whether you’re a business or a residence, if your alarm system goes off they will not dispatch the police unless the alarm center can verify that it is a real alarm. So that means either some places you can do it remotely with video to verify yes, there’s a guy in the back room, or you have to send a runner out there, which costs money.”

### **Proving Return on Investment**

The retailer points to the ability to provide concrete ROI as a means to overcome organizational resistance. “If you think about the safety pieces, with slip and falls, if we can say we’ve had 14 claims, and 12 of them never happened, with an average claim of about \$1000, we’ve saved \$12,000. Those are the kinds of things we look at with video systems.”

## **TECHNOLOGY ENABLERS AND LESSONS LEARNED**

### **Identify Internal and External Partnerships Early**

*When asked to provide advice to others in a similar situation,* the grocery retailer points out the importance of internal alignment. “With any security technology today – video, alarms, biometrics – it’s all got a computer chip in it, so I don’t think you should be doing any of this without first going to your IT department and identifying your partner. That way, when I have a vendor come in, I want them present to look at that equipment with me. You go into it as a partnership. I’ve asked my network people, ‘Are there six questions I should be able to ask every vendor that if they can’t answer each I don’t have to continue the conversation?’ Because there are so many equipment providers out there. You need to know what works for your company and what doesn’t. The pipeline, all the access points are controlled by IT, so you’d be crazy to not strike up a partnership with them, because you’re not going to be able to network, you’re not going to be able to share it with people – or restrict it – whatever your case might be – without that support.

*When asked to provide pitfalls other retailers should be wary of,* the grocery retailer warns of vendor selection. “Never put all your eggs in one basket unless it’s a proven national vendor who can provide service in all 50 states, or internationally.”

As a final piece of advice, the grocer offers the following: “Put your specifications together. If you’re going to go looking at technology you need to have generic specifications so you can compare apples to apples.”

## CASE STUDY #3 – GENERAL MERCHANDISE BIG BOX RETAILER

The third case study was conducted with a general merchandise “big box” retailer operating in the United States, currently utilizing digital surveillance enterprise wide.

### BUSINESS CHALLENGES – LP ASSET PROTECTION & SAFETY

*When asked to define a primary challenge the company is using digital video to overcome, our third case study interviewee echoed the sentiments of the first retailer. “Loss prevention is our focus. Our video systems are driven by asset protection. We’ve been using video in our stores for a number of years, and we’re watching as technology and solutions continue to evolve, but we’ve been in this space for quite a while.*

The retailer also identified safety as a secondary challenge. “We seek to reduce crimes against people, our employees and in the surrounding areas, including the community. We use our video to promote a safe environment. We extend our capabilities through our centralized resources (video forensic capabilities) and we offer that to law enforcement – not just on our cases, but in crimes in communities where we have stores.”

*When asked to identify additional business challenges that can be addressed (i.e – leveraging the solution to create new value), the retailer ranks its priority list as follows:*

1. Customer Service Management
2. Marketing Effectiveness
3. Customer Traffic Flow Analysis

### OPPORTUNITIES

#### Tracking High Theft Items and High Risk Areas

*When asked what areas of the store can benefit most from the use of digital video technology, the general merchandise retailer says that the entire enterprise is already covered. “And they all have their own unique challenges. We actually tailor our video solution to each part of the facility for a couple of reasons. One is to provide the best capability that we can in each section while remaining cost competitive in the solution we’re installing. The truth remains that theft is going to occur. It will tend to gravitate to those areas where people think there is the least likelihood of being caught – so our answer is to provide a complete, all inclusive solution.”*

In regards to item tracking, “We use our video to track high-theft items. If we find a whole bunch of one item missing, what we’ll do is go back to our video and backwards track it from the point that they were taken to the path that the individual took through the store, what type of behavior is exhibited, and try to get a facial shots of that person for identification.”

“We’re actively partnering across our organization right now to identify these opportunities. We haven’t gotten to the point where we have fully defined them, but since we have infrastructure, basically every group we talk to across the organization is interested in leveraging that in one way or another. Whenever you have a geographically distributed organization, there is benefit to every part of the organization – especially from an HQ or central perspective – to have visibility into the operations of the organization.”

In regards to mining capability, “We certainly have the ability to do some basic things like search on activity, and vendors are heading toward traffic pattern analysis. The data mining and analytics tend to be point-specific applications (for instance an analytics capability of putting a trip line out there to see when people enter a certain part of a facility). From a retail perspective, the industry is still figuring out how we can apply the technology to our specific problems.”

### **Added Flexibility**

“From a loss prevention point of view, some of the benefit of digital video is the added flexibility in how we use it. It’s a lot easier to search based on key indicators or time as opposed to having to fast forward or rewind through standard video, so one of the big benefits is just the speed at which we can use the video. Another is quality and the ability to use that video from an evidentiary perspective in court.”

## **ORGANIZATIONAL INHIBITORS**

### **Existing Infrastructure Out of Date**

*When asked to identify internal inhibitors*, the retailer quickly points to infrastructure. “Sharing a common network infrastructure is the primary inhibitor. It’s a shared resource, and there are varying priorities of traffic used on that common infrastructure. Because video is a high bandwidth consumption device, it can potentially lead to trouble if not managed effectively for other operations.”

To combat infrastructure issues, the retailer has made significant investment in its network. “We’ve really accelerated our capabilities. Even two years ago a lot of the things we’re doing now wouldn’t have been possible based on infrastructure. So if your company is using things that enable this technology (power switches, gigabit network infrastructure) – that really lowers the cost of the investment.”

### **Impact to Existing Systems**

Also of interest, in regards to the perception that IT is resistant to the advent of digital surveillance technology, the retailer agrees with both the grocery and first case study interviewees. “If anything, IT may be resistant to the potential impact that it has on existing systems.” This echoes the notion of the retailer in our first case study – but is offset by the following: “We’re very fortunate to have a specific development crew dedicated to our loss prevention systems. By having that partnership and allowing our IT group that is aligned with loss prevention to partner with network and server technology and all the various groups – there tends to be quicker buy-in. Maybe that’s a recommendation for other organizations.” Indeed.

## View Digital Video as an Enterprise Asset, Not Just an LP Toolset

**“I think that the other paradigm that companies need to get past - ours included - is beginning to view the video infrastructure as an enterprise class solution, as opposed to an AP toolset or loss prevention toolset.** That has to do with funding. It also has to do with control. Who holds the key to the system when decisions need to be made? Independent of the technology, organizationally there’s a ways to go to answer these questions.”

## TECHNOLOGY ENABLERS AND LESSONS LEARNED

### Technology Standards and Retail Specific Applications Needed

*When asked what additional value the retailer would like to see most from emerging technologies,* the retailer points to more compelling ROI model by the adoption of standards. “In terms of digital video, I think this is an emerging space. I think what would add additional value would be the adoption of standards in this space. The companies that are developing technology must focus additional time and energy toward understanding the unique requirement of market verticals.”

The retailer points to the need for vendors to provide more retail-specific application within their solutions. “Historically, there’s been a lot of time and energy in video surveillance to the government sector, airports, etc. Those types of tools could be modified to be very valuable in a retail environment. However, we find that we are typically left doing the translation of how the tool might fit our environment and our challenges, as opposed to vendors coming prepared to apply those in unique ways that we might not even thought of. For example, we have people that will go onto our selling floor and pick up a lower value item, walk it over to the service desk and return it for credit or cash without a receipt. If you were to look at some of the trip line functionality or direction of travel: if someone walks directly in from the outside and straight to the service desk, it’s probably normal behavior where they’re making a return. If they’re coming in to the store and then approaching the service desk from the interior of the store, that may not be normal behavior. It may be, they may be shopping first and then making a return secondarily. But it’s probably something that’s useful for us to review. So direction of travel and trip line technology could really benefit retail. Certainly, we want people to come into our store. Traditionally, a perimeter around the store is the typical way a trip line is presented, but that’s not how we’d want to use it at all.”

### Insure IT is In Synch with Project Objectives

*When asked to provide advice to others in a similar situation,* the retailer also suggests internal IT alignment. “As you look at this from an opportunity, an ROI – a cost perspective, really - where this starts to make a whole lot of sense is if there’s a general direction in your company to put in world class network infrastructure and a willingness to leverage that resource for video. Get IT on board, and it’s a heck of a lot easier.”

That said, “If retailers are going into video surveillance looking for a positive ROI, unless they are in very high risk markets or have significant issues with shrink – it may be difficult to find. You need to look at this from a prevention perspective as much as you do a results

perspective. That's the way we view it. The prevention of safety issues, the prevention of theft, fraud. The perception we want people to have is that 'If you're going to steal something, ours is the wrong store to choose.' We have world class systems and we have a much higher probability of catching and prosecuting any who try – that certainly doesn't show up on a financial ROI system – so I think you need to build your case as much on that notion.”

### **Take Control of Your Destiny and Get Support Agreements in Place**

*When asked to provide pitfalls other retailers should be wary of,* the general merchandise retailer advises that the method by which the solution will be supported must be decided early. “Historically, analog video systems and early digital systems have been primarily vendor-managed and they have been not very well understood by the standard IT organization support groups within companies. To the extent that you are bringing in digital video solution and sitting on some of those common resources it makes good sense to get that group on board from a support perspective – not just an approval perspective. The pitfall of putting in a system – you have all of the appropriate vendor support agreements, costs, and all of a sudden you start getting issues that are not directly related to the video technology component – then what do you do? Better to line that up in advance.”

## APPENDIX A: RSAG'S BOOT 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 their 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.

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RSAG 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 tradeshow, publications, research, training, and Web-based services. For more information, visit [www.retailsystems.com](http://www.retailsystems.com)

RSAG services the Extended Retail Industry. This term, coined by RSAG, describes a broader consumer-focused ecosystem encompassing retail, manufacturing, transportation, distribution, logistics, warehousing, solution providers, and other supporting organizations.



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