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RFID In Retail: The Future Is Now

Today's retailers stand at the forefront of a truly revolutionary technology – Radio Frequency Identification (RFID). RFID places the retail industry at the cusp of a new era where real-time determination of product availability and movement is possible, enabling dramatic improvements in operational efficiency, customer service, and profitability. Understanding the benefits of RFID and initiating the strategic planning required to incorporate it into your organization are the first steps to leveraging the technology.

In a collaborative effort, RFID technology provider MeadWestvaco Intelligent Systems and retail consulting firm LakeWest Group, LLC are actively engaged in RFID pilots.

MeadWestvaco is currently dedicated to piloting its real-time inventory visibility systems for retailers both domestic and abroad as a means to improving product availability and, thus, customer satisfaction. The company's current engagements illustrate that their RFID focus has progressed far beyond simple technology tests. They are nearing completion of a first-generation commercial system.

LakeWest Group is furnishing the comprehensive retail expertise and insight required to develop the solutions for incorporating RFID into existing retail business processes and systems.

This paper provides not only the benefits attributable to RFID, but also a high-level discussion of key planning elements critical to the eventual rollout of RFID technology.

To maintain competitive advantage, leading retailers are capitalizing on RFID technology to gain visibility of products at all points along the supply chain. Such visibility allows retailers to avoid stock-outs, a major contributor to lost sales and an inconvenience to which customers are becoming increasingly intolerant. In a largely mature retail market in which opportunities for growth and profit improvement are becoming ever more elusive, maintaining sufficient in-stock positions without incremental inventory remains a cornerstone of retail success.

THE TREND TOWARD ITEM-LEVEL RFID IN RETAIL HAS BEGUN

True first-mover advantage of implementing RFID technology will undoubtedly be claimed by those leaders already testing, piloting, and rolling out RFID functionality. Retailers, manufacturers, and consumer goods companies like CVS, Tesco, Prada, Benetton, Wal-Mart, and Procter & Gamble have moved well beyond the conceptual beginnings of exploring how RFID technology might impact their businesses. With the help of numerous technology and component providers, they are currently testing and piloting RFID functionality across their stores. While RFID implementation

among such companies varies in its execution, the important take-away is that these companies have proactively sought out the technology that many in the industry are convinced will become as widely accepted as the Universal Product Code. Consequently, they are poised to reap significant benefits across all levels of the supply chain.

According to Robert Antall, LakeWest Group President, most notable among the benefits available to these companies, as well as early followers, is the competitive edge that can be gained from strategically incorporating RFID into their organizations prior to mainstream acceptance. As with any technology implementation, derived benefits occur incrementally over time. Given the consensus among leading retailers and other members of the Auto-ID Center (see Fig. 3.0) that RFID will someday be as ubiquitous as the barcode, retailers who begin to plan for it early will capture specific operational benefits earlier. Better management of in-stock levels and elimination of labor inefficiencies are just two examples of many that can be easily translated into improvements to the bottom line quickly. RFID-enabled retailers will find themselves in a position to exploit these benefits to claim market share at the expense of their competitors.

RFID enablement will require significant time for testing, piloting, and full-scale implementation. Companies who wait to strategically plan for RFID may think they will capitalize on others' research but may find themselves struggling through expedited implementations at premium expense due to time constraints and aggressive competitor behavior. While early adopters will be moving into the second phase, characterized by adapting their business processes and integrating technology, hesitant retailers will be caught in a complicated and frustrating process of playing catch-up.

Retailers may be interested in the efforts of several companies who are actively engaged in RFID initiatives:

CVS – CVS announced earlier this year its plans to pilot MeadWestvaco RFID technology in two of its pharmacies to better track prescriptions as they move from the shelves to the waiting bin area and the prescription pick-up/POS area. According to company executives, the implementation of the technology will greatly enhance customer service. In several public forums, CVS described a coordinated program that would systematically apply the appropriate RFID technology to prescription tracking, prescription drug inventory monitoring on pharmacy shelves, pharmaceutical inventory tracking from DCs into the individual stores, and ultimately real-time inventory visibility applications in the front part of the store. CVS believes that the pharmacy is a logical place to begin ePC™ (see Fig. 1.0) implementation since this part of their operation has a high concentration of value creation opportunities in customer and patient service, quality control and safety, cost reduction, and regulatory compliance.

Prada – Prada has tagged all of the merchandise in its New York City Epicenter store with RFID tags in order for store personnel to gain immediate access to a database housing detailed information about each and every item. Using a wireless reader, associates can easily identify additional sizes or colors currently available without physically checking the back room. Additionally, RFID tags are incorporated into Prada Customer Cards, which supply detailed

Fig. 1.0 - RFID's Use in Retail:

Radio Frequency Identification (RFID) is essentially a wireless communications technology used to identify objects using very low power radio waves. With respect to its practical application in identifying inventory throughout the consumer products supply network, RFID generally uses simple ID numbers known as electronic product codes (ePC™), which function like "electronic barcodes." These codes identify items, allowing management systems to track the flow of goods in real time.

Primary components of an RFID system include tags and readers.

Tags – In an increasingly prominent proposal made by the Auto-ID Center and promoted by EAN and the Uniform Code Council, RF tags, or transponders, have embedded within them the item-specific ePC™. Tagged inventory may reside on front-of-store shelves, in the back room, in the warehouse, or may be in transit. The ePC™ number itself has specific parts that identify the manufacturer, the product category, and the serial number assigned to the particular package. The ePC™ numbers in the tags serve as unique identifiers for packaged goods, which can be automatically read at any point along the supply chain to obtain targeted information about a retailer's inventory, such as out-of-stock updates, shrink reports, and a host of other inventory-related queries. Please note, the tags themselves do not carry this data, but serve only as an identifier to link the particular item to data residing securely on computer servers throughout the chain.

Readers – The reader is the device that accesses the embedded tag data. As tags pass through the ultra-low-power radio waves emitted by the reader, the ePC™ is decoded and transmitted to a host computer system or network where product-specific information is available for analysis.

Readers can be mounted anywhere within the supply chain. Mounted on doorframes, they track merchandise as it moves from the back room to the sales floor or within the sales floor. As component pieces of RFID-enabled shelving, they assess current shelf stock positions, communicate in real-time the need to restock, and maintain a retailer's perpetual inventory. Readers are becoming increasingly robust, smaller, and less costly; and it is now possible to hide readers in virtually any fixture or piece of equipment.

customer preference information to the database. Customer information is only accessible with the customer card, enabling store associates to provide one-on-one customer service in the store.

Benetton – Benetton recently announced its intention to embed RFID tags into all the garments within one of its lines to track items arriving into the back of the store. The company also plans to leverage the technology to immediately capture sales and returns.

Tesco – Tesco plans to launch a new MeadWestvaco "smart shelving" technology to monitor on-hand inventory of DVDs. Tesco's partner in the initiative is Entertainment UK, Europe's leading category manager for home entertainment products. Tesco's initiative indicates that customer satisfaction through on-shelf availability and long-term theft reduction is its primary goal.

Wal-Mart – In conjunction with Gillette and Procter & Gamble, Wal-

Mart is already testing smart shelf technology in several of its stores with RFID-tagged Gillette razor blades and Procter & Gamble cosmetics. As RFID technology continues to develop, Wal-Mart anticipates global supply chain visibility paired with real-time knowledge of on-the-shelf product availability and eventual integration with stores' anti-theft tagging technology.

While these companies will certainly not be the only ones to leverage the evolving technology, they will experience significant benefit by being the first. And, when large retailers like Wal-Mart and CVS are the first to leverage a technology, the industry can often bet that that technology will take hold. After all, their size enables them to exert a considerable influence over their suppliers. Suppliers, for example, may be required to modify their inventory to be compatible with new RFID-enabled operations of their retailer customers. As suppliers retrofit their operations, other retailers may find themselves in a position where

their suppliers provide only RFID-equipped items, a phenomenon many in the industry believe is forthcoming. At that time, the cost of the tags (see Fig. 2.0 below) will be distributed through the system, and laggard retailers will be paying for something they are not leveraging.

BENEFITS

The ramifications of RFID are clear across all retail processes. Overall, both short-term and long-term benefits are evident through improved inventory management, accurate shrink measurement and estimation, increased labor efficiencies, and improved customer service.

The greatest benefits to implementing RFID are those realized by gaining better management of inventory through never-before-available location-specific merchandising information. RFID technology at the item level offers highly accurate perpetual inventory because each item is tagged and can be traced through all enabled areas of a store. Not only will a retailer be able to ascertain if an item is in the store, the specific location of that item will be available as well. The result is more accurate allocation and replenishment, which yields better in-stock positions *and* lower inventories.

Also, knowing *where* a customer found an item in the store is important since many items, particularly promotional items, are stocked in more than one shelf location. Tagging each package with its own identifier makes it possible to test various store locations for improved merchandising with quick and accurate feedback.

Perhaps more importantly, these operational efficiencies should ultimately transcend to a retailer's ability to provide improved customer service. Customers are attracted to stores that consistently have merchandise available. In fact, reliable in-stock is a basic customer expectation. Out-of-stock instances will likely compel them to shop elsewhere.

Additionally, from a merchandising perspective, RFID technology can enhance the inventory management of vendor-managed or category-managed inventory. Real-time on-shelf availability data accessed remotely will be extremely helpful to vendors for purposes of restocking.

Other inventory management benefits include reduced cycle counts and more accurate shrink data. With RFID, stores have more accurate information on their actual inventory without the expense and time associated with

Fig. 3.0 - Auto-ID Center: Founded in 1999, the Auto-ID Center brings together almost 100 prominent companies like Procter & Gamble, Wal-Mart, and CVS with leading research universities worldwide including MIT, the University of Cambridge in the UK, the University of Adelaide in Australia, Keio University in Japan, and the University of St. Gallen in Switzerland, to develop automated product identification technology. The Center is actively pursuing the global standards meant to provide assurance to retailers that systems installed today will be fully supported and compatible with future enhancements and improvements. In addition to an RFID focus, the Center is also developing other item-level tracking technology standards and protocols through its software action group supported by MeadWestvaco, Sun, SAP, P&G, MIT, and others. More information on the Auto-ID Center can be found at

numerous physical inventory counts. The ability to monitor merchandise in real-time at the item-level instead of the SKU-level allows the store to track when and how an item is purchased or whether the item is leaving the store without being purchased.

While the store-level benefits do encompass some of the benefits discussed at the inventory management level, there are specific benefits to be captured in the front and back of the store when the move is made to outfit merchandise with RFID tags.

The ability of RFID readers to read tags without a direct line of site provides opportunities for improving receiving processes at the store. RFID-tagged items can be read as they are unloaded from trucks into the back room and immediately moved to the correct location, whether on the selling floor or in the back room. This process will save time, as an RFID reader has the ability to scan multiple distinct tags simultaneously and can, therefore, process and verify the contents of shipments very quickly. This same effort today would require considerably more effort, as the only way to perform the same function would be to open all boxes and manually scan each barcode.

Fig. 2.0 - A Note on Tag Costs - When the Auto-ID Center was formed three years ago, the most common reason for skepticism focused on tag and infrastructure costs. Proponents of the new product coding approach confidently predicted drastic reductions in tag price – and a 1-penny tag was openly discussed. In part to pacify companies with more expensive existing smart tag products, the Auto-ID Center and prominent user companies began to talk in terms of a 5-cent tag, though many well-informed engineers associated with the industry still claim that, at sufficient volume, a tag price below a nickel is possible.



As technology advances, and RFID technology is integrated with a store's POS systems, RFID advocates envision a day when enhanced POS efficiency can be realized by scanning a complete cart of merchandise instantaneously, rather than today's method of scanning individual barcodes. Given such advanced technology, RFID will reduce POS checkout time and minimize human error. It will also attach accurate price and product data to each item, virtually eliminating losses due to inaccurately labeled merchandise or price-change errors.

PLANNING AND READINESS

If a retailer is not among those companies who have been actively investigating RF systems, it is still possible for that retailer to capitalize on the benefits of the technology. Companies who begin to answer critical questions surrounding RFID such as "How will it fit in my existing infrastructure?," "What return can be realized?," and "Where can we pilot RFID in our enterprise?" will enjoy significant competitive advantage over their industry counterparts who continue to adopt a wait-and-see approach in hopes of reduced costs in the future. Because system cost reduction is being aggressively pursued by many RFID vendors and RFID systems continue to mature, it will likely be difficult for the lagging retailer to appropriately time their entry into the market.

For those retailers who acknowledge the urgency of RFID enablement, comprehensive planning is required to capture the benefits discussed earlier. Cross-functional participation from merchandising, store operations, distribution and logistics, information technology, and finance is recommended in order to define the objectives of RFID for the entire organization, craft the strategy for achieving those objectives, and establish the metrics used for determining success. Planning in this sense is largely a strategic effort rather than a capital one. The long-term strategic elements must be clearly defined prior to even attempting to account for specific capital needs. In absence of these critical success

factors, an RFID effort will be plagued from the start.

Regardless of the objectives a retailer intends to accomplish, retailers undertaking a strategic RFID initiative must be prepared to address specific questions. Who is an appropriate vendor partner? What merchandise will be outfitted with RFID tags? What areas of the store will be RFID enabled? What is the anticipated implementation timeframe for achieving the targeted ROI? What merchandise and store areas will be enabled subsequent to an initial implementation? All of these and more require a retailer's focus.

Vendor Partner Selection – Selecting the appropriate vendor partners is critical in mitigating the risk normally associated with pursuing a new technology. Choosing a vendor partner with experience and with sound alliances is essential. According to Ronnie Hise, MWV Intelligent Systems General Manager, ideally, the solution provider will also be able to provide a holistic approach that includes the hardware, software, and the integration and implementation services required to implement effectively and efficiently.

Merchandise Inclusion – Guidelines for selecting the merchandise to be included as part of an initial rollout focus primarily on those products that are poised to provide significant benefit with minimal risk. Examples of such products include items under a vendor-managed inventory arrangement such as CDs, DVDs, books, etc., as well as high-ticket, high-shrink items such as printer cartridges, razor blades, and cosmetics. Because RFID will improve the accuracy of perpetual inventory, vendor restock efforts will likewise be more accurate. Similarly, because RFID provides real-time location tracking of product within a store, retailers will be able to more accurately determine the cause for shrink and, as a result, implement measures aimed at minimizing actual shrink levels and planned shrink reserve.

Budget Preparation – Critical to an RFID implementation is the allocation of adequate resources from both financial and human capital

perspectives. Retailers should be careful to not underestimate the dollars required to outfit a complete RFID infrastructure inclusive of tags, readers, store fixtures, and software or the human resources and labor hours necessary to ensure that testing, pilots, and rollouts are successfully executed.

In addition, evaluating the costs associated with the effort relative to the anticipated benefits, and monitoring the extent to which those costs change due to unforeseen factors, will enable retailers to effectively gauge the success of the implementation. Successful implementations can then provide solid justification for subsequent initiatives in other areas of a retailer's operations.

Migration Planning – With the onset of any new technology, alternatives exist for the timing and method of implementation. Some retailers will favor full-scale, overarching implementations in which all affected products and store areas are implemented together. This approach attacks all the implementation pains at once and realizes benefits of the implementation more quickly. Others, however, may choose to follow a more deliberate approach, incorporating only critical items and store areas initially, and leveraging the benefits from these areas to fuel the justification for the incorporation of additional items and store areas in the future. Regardless of the approach that is pursued, a retailer must ensure its approach is consistent with its overall strategic objectives and that adequate time and resources are allocated to an implementation.

Additionally, consideration must be given to the manner in which supply chain partners will or will not participate. It is debatable whether or not retail suppliers will pursue RFID with the same sense of urgency as a retailer. In fact, it will likely vary by market, depending on the value accruing to the upstream supply chain partner. Consequently, retailers must incorporate into their planning not only the manner in which RFID tags will be affixed to individual products in the short term, but also when suppliers will be brought in to the fold and participate as RFID-enabled business partners. As RFID becomes more widely accepted,

the prevalence of suppliers providing RFID-enabled products will likely increase. A retailer's migration toward RFID must incorporate this likelihood in order to achieve the cost efficiencies

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that will result. Simply stated, as suppliers take on the burden of outfitting products with RFID tags, retailers can eliminate the labor hours associated with procuring and affixing the tags.

Communication – Upon embarking on RFID, communication to all parties affected by the transition will be critical throughout the entire process, from planning to implementation. Inherent in the planning should be adequate communication to corporate employees and shareholders who will require briefing not only on how the technology works, but also on what benefits the organization expects to achieve as a result of pursuing the technology.

Suppliers must be kept informed to the extent that their products will be part of an RFID rollout. For that merchandise included in the planned rollout, the associated suppliers must be informed well ahead of time and evaluated on their readiness to comply. Interestingly, those retailers already testing RFID have witnessed enthusiasm on the part of their vendors to be intimately involved with the rollout, often aggressively pursuing greater involvement – a clear example

of supply chain partners' interest and belief in the technology.

Because the adoption of any new customer-facing technology often entails a slow, public acceptance, customers must be introduced to the concept of RFID explicitly. Specifically, they should be educated on the physical presence of the tag, if in fact it will be visible, as well as how the introduction of RFID might potentially affect the shopping experience.

More importantly, because the issue of consumer privacy is currently receiving significant media attention, retailers will do well to anticipate consumer backlash, especially since there are privacy advocates attempting to give credence to overstated concerns about RFID and the harmful impact on consumer privacy. While not completely inaccurate, the implications have been greatly exaggerated.

For example, customers may be concerned that not only will their shopping habits be tracked, but also that RFID tags will be able to read inside their homes, providing information about their personal lives and habits to external forces. The truth is that RFID tags cannot be casually read by passers-by due to the short read range of today's technology. Lower and medium frequency tags cannot be read from the street outside a home, nor can they be read without the requisite supplemental equipment housing the correct security firmware installed. Beyond that, the tags used in most RFID programs today contain no real information other than the ePC™. In absence of a retailer's internal systems, which recognize that code and pair it with the information residing in that retailer's data storage systems, the tag information is useless.

Furthermore, vendors such as MeadWestvaco are supporting the option of outfitting an RFID system with a “kill command,” which effectively deactivates any tag upon checkout.

Training and Knowledge Transfer – As RFID will undoubtedly alter business processes throughout the retail store, comprehensive training will be required to ensure new processes are

constructed in a manner to best exploit the technology. Management and store personnel alike must understand not only the tactical changes, but also the strategic intent behind those changes in order to fully support and execute new business processes and avoid an environment in which users circumvent the new procedures.

Importantly, training must be constructed as an ongoing process because different merchandise and different store areas may be affected at different points along the implementation timeline. For this reason, a training plan that defines the specific training required, includes a schedule for subsequent implementations, and incorporates a series of refresher training classes to accommodate employee turnover is recommended. Training is also a critical component of any change management approach.

Technology – The potential impact on legacy information systems from a sudden flood of real-time data from inventorying every individual item in a store is significant and potentially very costly. Clearly, to gain the full value from RFID systems, retailers must create interfaces that extract and transform the raw RFID data into information that can be used by the existing core transactional retail systems. Because legacy systems are usually batch-oriented and often based on old architectures, it is widely believed that integration with new real-time item-level tracking systems will be both difficult and expensive. However, one of the missions of technology providers has been to greatly ease integration pain by providing flexible implementation schemes. The approach used by MeadWestvaco, for instance, minimizes interface points and allows retailers to “prove out” the new systems in parallel with legacy systems, and perform the more extensive integration over a period of months or years. This parallel systems approach is practical since the functionality of the old and new systems are more synergistic than competitive. Ultimately, interfaces of varying levels of complexity may need to be created with the following systems: Merchandise Management (assuming that Inventory Management

and Inventory Control modules are part of Merchandise Management System), Allocation, Replenishment, Data Warehouse, and POS.

Perpetual inventory data drives most of the automated fulfillment modules. Stores using RFID technology to capture inventory on-hand to improve accuracy, therefore, may need to interface that information into their inventory management systems so that allocation algorithms use the most current RFID perpetual inventory data. Similarly, on-hand information drives replenishment reordering so an interface here may also be necessary.

Database storage in a retailer's data warehouse/data storage system will also require review. Depending on merchandising requirements, a retailer may need to change database fields and/or add storage capacity. For example, a pharmacy may find great benefit in tracking prescriptions at their unique item level. If an average store has 250 prescriptions a day and the chain has several hundred stores, the retailer must be able to store as many as one million new transactions each week. Deciding what to save and for how long, and what data to aggregate, are obviously critical questions. Retailers must ensure they focus on storing information that is worthwhile and capable of driving decision-making.

Potential integration with a retailer's POS system likewise requires investigation. Questions such as whether the current POS infrastructure from both hardware and software perspectives can support an RFID system must be answered to determine the need, or lack thereof, to build appropriate interfaces. For many, the criticality of interfacing inventory-monitoring systems will take priority over the need to interface with POS systems.

While integrating RFID technology with existing transactional systems can be a daunting task, it may not actually be required in the short-term. Depending on a retailer's requirements, existing systems may not need to interface with the RFID application if business processes are revised to effectively incorporate the co-existence

of multiple systems at a single operational touch point. MeadWestvaco Intelligent Systems has emphasized a measured approach to integration in their pharmacy automation and entertainment media retailing solutions. Recognizing that integration costs can drive the entire cost equation (rightly or wrongly), they have given the integrator and retailer options with a system that can act independently or in close coordination with legacy systems. Retailers can get well down the road to RFID system implementation without spending big integration dollars but only if they make themselves aware of these options and put themselves in a position to properly stage the integration phases.

Information Analysis – The amount of potential information that will be available by utilizing RFID and the ePC™ item coding technology will be immense. Following a proven path for determining what information will be needed and when it will be needed will be essential to successfully gaining the benefits of RFID. Some elements requiring planning include the frequency with which information is accessed, the frequency with which information is updated via batch processing, and the flexibility with which users request information. Understanding what information, and how that information will be accessed and utilized, will improve a retailer's operational efficiencies and assist in defining how that retailer may best use the information provided by RFID technology.

Store Planning and Fixture Allocation – As RFID planning begins to incorporate specific store operational processes, store planning and visual merchandising departments must work hand in hand with the organization's merchant group to prepare for planogram and fixture changes. In today's non-RFID-enabled stores, security devices already degrade the look of merchandise and fixtures. Avoiding further degradation by altering the look and feel of products and fixtures with the addition of tags and RFID-enabled shelving is critical. Redefining original stores' planograms and required fixturing should be undertaken in a way that maintains the

identity of the stores' visual merchandising, while at the same time

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MWW Intelligent Systems

makes the addition of RFID technology virtually transparent to the consumer. Similarly, adhering to the new visual merchandising constraints placed upon retailers by the incorporation of RFID is important in the design effort of new stores and store remodels.

Maintenance of RFID-enabled shelving and fixtures is also a requisite part of planning. Retailers must be careful to define where the responsibility for maintenance and fixture replacement resides. Clarification of this point with technology and component providers should be inherent in all contract negotiations.

Store Operational Processes – Significant operational transitions will be required by an RFID implementation. Many processes will incorporate a transition challenge due to the type of data that is analyzed for purposes of making business and operational decisions, while others will require changes to the actual processes themselves. For example, the process of determining the appropriate placement of merchandise on the sales floor will not change materially. However, with the implementation of RFID, the type of data used to support such determinations will include more accurate measures of sales performance by location. On the other hand, the

process of affixing UPC labels will be eliminated altogether for those items being RFID tagged.

As a large portion of a store associate's daily responsibilities will be significantly changed or eliminated due to new processes, the question of how to use this available time and make adjustments to job descriptions, daily responsibilities, and work day structures will need to be addressed. For example, given the reduction in labor required to conduct cycle counts and physical inventories, excess time will likely be available for sales-related or customer service activities. Similarly, because RFID technology changes the manner in which merchandise is received into the store by eliminating the need for detailed invoice matching and article counts, additional capacity is available for more productive activities. Store personnel whose duties normally require receiving will likely be able to spend more time on activities such as back room organization and timely movement of product to the selling floor. Determining which activity is best served by a reallocation of labor requires forethought so as to most efficiently utilize the excess capacity created by RFID.

Critical to the success of new process implementations is the use of a true change management approach that emphasizes continual communications, incorporates feedback, and focuses on ensuring buy-in throughout the organization. It is critical to consult with store personnel and educate them as to why the adoption of RFID is in their best interest, as well as the best interest of the organization. It may even be necessary to adjust contracts, work rules and incentives to reflect the new operations.

Store Space Utilization – As the flow of merchandise receipts more accurately reflects the rate of sale, the need for excess holding capacity on the selling floor and in the back room is reduced. As a result, the opportunity to increase productive selling space is clear. Proper planning for, and utilization of, excess selling space will likely translate directly to the bottom line, as additional merchandise will be available for sale without the costly

requirements of store redesign and remodels.

CONCLUSION

Retail is essentially a zero-sum game in which one company's improvement typically comes at a competitor's or supply chain partner's expense. Increase in share for one means a decrease in share for another and so on. Given this environment, the introduction of a technology capable of providing a competitive advantage to those forward-thinking retailers who incorporate it early is welcome. Today, RFID is that technology. RFID provides clear benefits throughout a retailer's supply chain, with distinct implications at the store level. Better availability and management of inventory provides immediate efficiencies and the ability to streamline, and in some instances eliminate, time-consuming operational processes, allowing retailers to focus their attention in areas more apparent to the customer.

How to incorporate the technology and capture its associated benefits, however, is not as straightforward. A decisive strategic plan that is consistent with a retailer's overall business objectives and that methodically addresses the key elements inherent in an implementation is critical. From capital budgeting to change management, a retailer must employ a deliberate approach to implementation. And, crafting that strategic plan on the heels of prominent retailers who have already broken ground with RFID will avoid an expedited and ill-timed approach and result in improved competitiveness.

LakeWest Group, LLC is the premier independent management consulting firm dedicated exclusively to serving the retail industry. With deep business knowledge and cross-functional skills, the firm delivers superior design and implementation of strategy, technology, and process solutions to help our clients achieve their full business potential. Headquartered in Cleveland with offices in New York City, LakeWest Group serves all retail segments and channels.

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MeadWestvaco Intelligent Systems (MWVIS) is an application-oriented solutions provider of real-time item-level inventory visibility solutions to retailers, focusing initially in the entertainment media and pharmacy markets. MWVIS uses its core competency in high-volume tag application, commodity manufacturing, and project management, along with industry-leading fixture networking technology, to produce practical systems, bundled together with end-to-end implementation support.

Recent MWVIS Publications include

- A Practical Approach To Item-Level Software
- EPC Adoption And MeadWestvaco Intelligent Systems
- MWVIS Pharmacy System Overview
- MWVIS Entertainment Media Retailing System Overview

For more information on the above, contact Ronnie G. Hise, PhD., General Manager MWV Intelligent Systems, at 203-461-7563 or info@mwvis.com.