

PERVASIVE RETAILING JOURNAL

A PUBLICATION OF FUJITSU TRANSACTION SOLUTIONS INC.

THE NEXT GENERATION OF BUSINESS INTELLIGENCE: DRIVING CUSTOMER INSIGHTS ACROSS THE RETAIL ENTERPRISE

By Nikki Baird and Paula Rosenblum

DIVINING CUSTOMER DESIRES: RETAIL'S HOLY GRAIL

Customer data matters. Survey after survey has demonstrated that in today's world, the retail customer is firmly in the driver's seat. If the last decade of the 20th century was the decade of the efficient supply chain, the first decade of the 21st century is clearly all about the customer. Efficient supply chains and back-office computer systems have enabled retailers to grow to a size and scope unimagined by their predecessors. Yet those same predecessors would likely cringe at the dearth of product selection, lack of service and mismatch between customers' wants and product offerings available in today's retail megastores.

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By John Frabasile

As retailers and consumers, we all know the reality – when customers want to buy something, they want it now. And when a product isn't available, the consequences for the retailer can be far-reaching. Not only because of a lost sale, but also by jeopardizing the prospect of that customer ever returning.

Getting the right product to the right place at the right time has long been the pressing, but elusive, goal of retailers.

Traditionally, retail enterprises have inventory and replenishment systems based on inventory on-hand calculations. Since it is not practical to manually count a store or chain's inventory on a daily basis or at store management's whim, retailers must rely on their inventory management system's perpetual inventory records. However, these records are rarely accurate. Thus, by basing replenishment orders on inaccurate data, store management doesn't have true invento-

ry visibility and faces the expensive costs of stock-outs and overstocks.

THE INHERENT DISCONNECT

Take a simplified example. A store received 10 units of an item from the distribution center and moved them to the sales floor. Subsequently, three units were sold and, because they went through a POS transaction, the system shows a current inventory of seven units for that item. However, in reality, one unit was stolen and one unit was damaged in the back room and cannot be sold.

This disparity is not picked up until the next physical inventory count, which may not be until the end of the selling season. Until that next physical count, everyone is working with the wrong information – the system says seven units and in reality there are only five. This is the inherent disconnect. Inventory management and replenishment

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SMART TECHNOLOGY INVESTMENTS REAP REWARDS

By David Dobson

Whether retailers instinctively know that investing in retail technology is wise, or they're learning through experimentation, one thing is clear: today's broadband pervasiveness – with its ability to handle a variety of information like transactional data, inter-office mail and VOIP – has opened the door to a retail technology boon that is dramatically affecting how retailers operate and enable the “connected store.”

The March 2007 Retail Systems Alert Group report titled “*Technology-Enabled Customer-Centricity in the Store*,” says the first step toward understanding today's increasingly connected store environment is to get store management back on the sales floor.

However, some retailers believe that ongoing success demands more than just a close customer connection – it requires implementing technology solutions that support every aspect of business in today's connected global economy.

So which retail technology investments – and cutting-edge initiatives – are retailers pursuing to improve their shopping environments and reduce costs? Here are a few examples:

Centralized Infrastructure The explosion of new technology that integrates and interacts with existing store systems has paved the way for centralized store and enterprise solutions. IT management appreciates centralization because it enables automation of processes such as backup and recovery. Likewise, store managers welcome the new-found ability to centrally access data gathered from customer interactions as well as the insight and confidence needed to make fast business decisions.

Packaged Solutions Some retailers that once built their IT infrastructure piece-by-piece are investing in proven hardware and software packages they can configure, because those solutions are easier and faster to deploy. These solutions include monitoring capabilities that send automated alerts to a help desk within engineering departments, so retailers can solve small IT issues before they escalate into major problems.

Interoperable Technology Centralized retail infrastructure combined with service-oriented architecture (SOA)-based software has made inter-

operability of unrelated technology devices a reality. This approach increases information sharing, improves data accuracy and enhances communications and operational efficiencies.

Mobile Technology PDA-like wireless technology puts store information at an associate's fingertips. It helps store managers get away from their desks and get closer to their business, while still enabling access to back-office systems. Store employees can use mobile devices to retrieve product information, manage phone calls and communicate with co-workers while assisting shoppers. Thus, overall store efficiency and customer service is enhanced.

Electronic Shelf Labels New advancements in price-label management and electronic shelf labels (ESLs) can save retailers large amounts

of labor costs while increasing productivity. The

traditional paper label approach is

tedious, inaccurate and environ-

mentally unfriendly. A central-

ized ESL system enables

managers to control

price changes and promo-

tions through the

back-office system.

With a few simple

keystrokes, a manager

can instantly

update all shelf labels

and ensure that prices

shown on the floor will

match the prices shown at

the POS.

Mobile Phone Technology The emergence of near-field communications (NFC) is creat-

ing new possibilities for the use of mobile phone technology in retail.

With NCF technology, consumers eventually will use their cell phones in

lieu of credit or debit cards to pay for merchandise. Customers securely

program their credit card or checking account information into their

NFC-capable phones and swipe the “iWallets” near appropriate readers.

The result is faster service at the checkout.

Retailers aspiring to provide best-in-class customer service through

updated technology solutions will find that “connected stores” also offer

many additional benefits. The bottom line – if you make smart invest-

ments with retail technology, the rewards will follow.

David Dobson is the worldwide retail store systems and e-commerce industry manager for Microsoft Corp.



VOICE LESSONS: LEARNING TO HEAR CHANGING CUSTOMER DEMANDS

By Peter Wolf

When your father stopped to get gas, chances are he expected to leave the station with a clean windshield, an oil check, the correct change, a little conversation and, of course, a full tank – all personally delivered by a service attendant he happened to know on a first-name basis.

With anything less, your dad would have left the station unsatisfied.

Fast-forward to 2008, and now it's your son who is stopping to get gas. Needless to say, his expectations are completely different. More than likely, he'll want to fill the tank himself, pay for it at the pump and use a credit or a debit card to complete the transaction.

A cleaner windshield never comes into the picture. And in lieu of a conversation about last night's game, your son might expect to hear a recorded message promoting the station's loyalty program. If an attendant is involved at all, it's only because your son has decided to buy something at the station's convenience store.

Consumer behavior and buyer preferences aren't only changing, they're doing so at an accelerating pace. No retailer, forward-thinking or otherwise, can afford to ignore the consequences.

With any other scenario, he might drive away as unsatisfied as your father would have been had he been forced to fill the tank himself.

Fast-forward once again, and now it's your grandson filling up. What will fuel his expectations in the years ahead? What will he consider to be a positive or a negative experience, and what will make him want to come back?

There isn't a forward-thinking retailer in the world today who isn't asking these questions in one form or another. No wonder. The evolution

that already happened in the gas service industry is now taking place in every retailing segment – from department stores to specialty boutiques, from industry giants to local shops.

Consumer behavior and buyer preferences aren't only changing, they're doing so at an accelerating pace. No retailer, forward-thinking or otherwise, can afford to ignore the consequences. The challenge, however, isn't to know what the consequences will actually be, it's to determine which ones are relevant and which ones aren't vis-à-vis the retailer's own particular business model.

To make a clear distinction – and more importantly, to benefit from the knowledge learned – all successful retailers believe in the importance of monitoring current market trends.

But relevant information notwithstanding, analyzing the retailing environment isn't enough. Unless the customer's voice is also heard loud and clear in the planning process, trend information is nothing more than data.

GENERATION RETAIL

Never in the history of the retail industry has technology played a more critical role than it does today. The current generation of retailers is literally surrounded by a multitude of technology trends that not only impact their business directly, but are literally redefining – rapidly and fundamentally – broad-based consumer behavior norms.

Consider a few of the technology trends that are presently impacting the retailing environment either directly or indirectly:

- According to a July 2007 report by the Aberdeen Group, titled "Reinventing the Customer Experience through Self-Service," kiosk adoption is fast-approaching the tipping point. Not only have numerous retailers launched kiosk initiatives, many financial services, hospitality and airline companies have turned to kiosk

PERVASIVE RETAILING TRENDS

88% OF SELF-SERVICE KIOSK ADOPTERS SEE IMPROVED CUSTOMER SERVICE

According to a recent Aberdeen Group survey, 88 percent of respondents reported improved customer satisfaction performance and 63 percent reported improvement in customer conversion rates since adopting self-service kiosks. More than half (56 percent) of the companies surveyed are enhancing the self-service customer touch points through a collaborative process of store operations workflow planning and kiosks.

SOURCE: ABERDEEN GROUP

RETAIL SOFTWARE SALES COULD HIT \$10.4 BILLION BY 2011: STUDY

Sales of software for the retail industry might hit \$10.4 billion by 2011, growing at an average annual rate of seven percent from sales last year of \$7.3 billion, according to a new market research study released by AMR Research. The projected growth will represent a shift in revenue toward implementation services, as retailers install the applications they purchased in 2005 and 2006, AMR said in the report, "The Retail Software Market Sizing Report, 2006-2011."

SOURCE: AMR RESEARCH

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PERVASIVE RETAILING TRENDS

RETAILERS ON TRACK TO SPEND OVER \$120 BILLION ON IT IN 2007

Retailers are heavily investing in IT and communications technologies worldwide, to the tune of over \$120 billion U.S. dollars this year, according IHL Consulting Group. North America represents about 45 percent (\$54 Billion) of the overall total in technology spend in retail, with Europe/Middle East/Africa representing another 28 percent of the market and the Asia/Pacific market representing 15 percent of the worldwide IT spend in retail.

SOURCE: IHL CONSULTING

NRF: CONSUMERS TO BUY MORE GIFT CARDS IN 2007

The annual National Retail Federation (NRF) Gift Card Survey found that gift card sales will total \$26.3 billion in the 2007 holiday season, compared to \$24.8 billion in 2006. Additionally, the average consumer will spend more on gift cards than they did last year (\$122.59 vs. \$116.51 in 2006), and 87.7 percent of shoppers said they will purchase two or more gift cards in that time-frame. Gift cards will be the one of the most popular gifts this holiday season as 56.6 percent of consumers plan to buy one compared to other top selling gift items like clothing, toys and books.

SOURCE: NATIONAL RETAIL FEDERATION

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solutions as well. Of the total, 25 percent of companies are currently using kiosks, and by the end of 2008, 42 percent will have adopted kiosk technology.

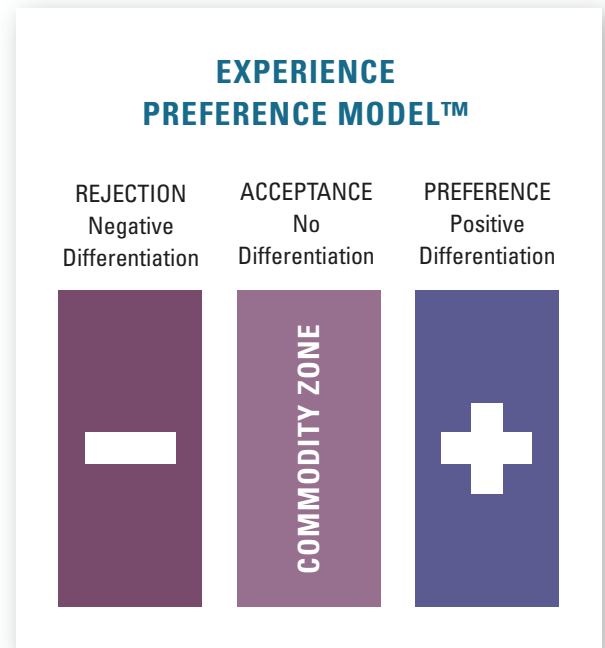
- By 2011, consumers are likely to be spending around \$1.3 trillion a year at self-service machines, according to a study by the IHL Consulting Group. In 2008 alone, expenditures at self-service kiosks should grow about 18 percent over the 2007 total.
- Also by 2011, Juniper Research, a UK-based analyst firm focused on the telecommunications industry, predicts that more than 50 million consumers will be using their mobile phones to pay for routine goods.
- In the travel sector, a survey by SITA, the air transport industry's leading IT provider, indicates that 39 percent of passengers now rate their ability to make travel arrangements on the Internet as an influencing factor in their booking decision.
- And in the QSR space, a recent study by the Foodservice Packaging Institute shows that only 25 percent of fast-food restaurant sales actually take place on premise today. Take-out orders now comprise 50 percent of the QSR business total; 20 percent is drive-through, and a little over five percent is delivery service.

Of course the list could go on. Regardless of the industry, the trend is clear – technology is changing consumer buying behavior and their resulting shopping preferences more dramatically and rapidly today than at any other period in history.

The priority for the present generation of retailers, however, is not how to meet the needs of a new generation of shoppers per se, it's how to ensure a successful future without undermining the goals of

the existing retail environment.

In the words of Lou Carbone, co-writer of the seminal article on *Engineering Customer Experiences*, “The things that businesses do to make money need to be balanced against an enhanced assessment of what it will take to make and keep customers in tomorrow's even more competitive global economy.”



Source: “Clued In: How to Keep Customers Coming Back Again and Again.”

PREFERENTIAL TREATMENT WANTED. EXPERIENCE REQUIRED.

Carbone demonstrated additional insights into customers in his book, “Clued In: How to Keep Customers Coming Back Again and Again.” He presents an Experience Preference Model™ that divides the customer's experience into three core “zones”:

1. Rejection, whereby the customer's experiences are perceived as negative enough to either spread unfavorable word-of-mouth or to avoid repeat purchases altogether.
2. Acceptance, when the customers' experiences aren't strong enough to create more than a neutral impression.
3. Preference, whereby the experiences make a strong enough impression to foster repeat purchases and positive word-of-mouth.

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For every business, the goal is obviously to create a customer experience that leaves the participant firmly in the “preference” category. But for retailers, the task is doubly difficult. Not only must retailers create a favorable perception of their brand, their products and their services, retailers must also satisfy their customers’ perceptions of the buying process itself.

To complicate the situation even further, as buying behavior changes, consumer preferences and expectations of the shopping experience will also influence the way the retailer is perceived, either positively or negatively. Retailers in the preference category today have no guarantee of a similar advantage tomorrow – unless they know for certain their offerings will continue to create the kind of customer impressions that have made them successful in the past.

The good news is that retailers can do just that, and it’s their customers who will tell them how. Any new trend that impacts buying behavior is the same as a clear-cut statement of preference from the consumer. By adopting new behaviors, shoppers are in effect telling retailers exactly what they prefer today and what they will eventually demand more aggressively down the line.

Not only must retailers create a favorable perception of their brand, their products and their services, retailers must also satisfy their customers’ perceptions of the buying process itself.

And based on current trend data, a new generation of customers is already telling us what some of their future shopping preferences will be.

In the voice of the consumer, growing Internet usage says: *“I want my in-store shopping experience to be as customized to my own personal preferences as my online ordering is.”*

In retailing terms, the self-service trend says: *“When the situation calls for it, I’d rather just check-out or order something myself than to complicate the process with a cashier.”*

Movement in the mobile category translates to: *“I prefer using my mobile phone to pay for a transaction instead of waiting in line.”*

And perhaps most significantly, regardless of the technology in question, the explosion in loyalty programs tells us that tomorrow’s customers are already saying: *“I want to be acknowledged, respected and rewarded for giving you my business. Period.”*

Just based on these few trends alone, it’s safe to say that shopper preferences will change radically in the not-too-distant future, and continue to morph faster and faster as emerging technologies become de-facto industry standards. But don’t just listen to me. When all is said and done, in the retail business, it’s the voice of the customer that really counts.

Editor’s Note: Peter Wolf is Vice President of Marketing at Fujitsu Transaction Solutions Inc.

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systems are working with inaccurate information, resulting in costly mistakes.

Consequently, stock is not replenished. This can result in several scenarios: missed sales, increased labor costs to locate non-existing merchandise, or increased costs associated with invalid transfer requests.

REAL-TIME DATA IS THE PANACEA

If the retail operation had “precise” real-time, item-level inventory tracking data, true inventory management could accurately determine the appropriate timing and quantity of a re-order, as well as the most effective source of supply for each item at each location. What a dream!

Imagine a system that provides an on-hand inventory count at each store location on a minute-by-minute basis. You would know where each item resides within the store as well as the status of each item. And best of all, you could do this without performing time-consuming manual physical inventory counts.

ABSOLUTE INVENTORY VISIBILITY – RFID

The dream is now reality. Advancements in active radio frequency identification (RFID) tags, combined with specialized software, have solved the problem of accurate, real-time inventory visibility. Forming a complete inventory tracking solution, the system uses long-distance, reusable RFID tags that bring extensive retailer benefits including accurate inventory visibility, reduced shrinkage and lower operational costs.

HOW IT WORKS

A unique battery-powered RFID tag, specifically developed for the retail industry, now exists that, when attached to products at the store or higher up in the supply chain, communicates via radio frequencies with small RFID readers attached to a store’s ceiling. The readers collect and transmit data from the tags to back-office computers that automatically identify and count inventory in mere seconds. The tags have a higher cost than passive tags; however, their reusable lifespan brings the cost-per-use well below the cost of passive tags.

When integrated with other in-store systems, retailers are enabled with ‘real’ inventory visibility and no longer require manual, inaccurate inventory processes. This technology can also be applied to improve other store processes that require accurate inventory information such as: item identification, on-hand inventory, inventory status and more.

RFID inventory technology can now effectively bridge the gap between the edge of the retail enterprise and the retail system – accurately tracking inventory at the item level. It is the “holy grail” that helps retailers *“get the right product to the right place at the right time.”*

Editor’s Note: John Frabasile is President and CEO of AbsoluteSKY Solutions Inc.

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Today’s retailers are acutely aware of this challenge. Retail Systems Research surveyed 83 retailers and published the results in July 2007. When asked to identify the most significant business challenges they face, these retailers highlight meeting customer expectations in one form or another as their biggest concern.

MANAGING THE RETAIL PARADOX: THE CUSTOMER IS KING, BUT THE SHAREHOLDER IS GOD

Retail winners (those who outperform their peers in year-over-year comparable store sales increases) are acutely aware of the need to meet – or better still – exceed customer expectations. They recognize that reducing out-of-stocks is critical, but at the same time know they cannot solve out-of-stocks by throwing inventory at the problem. Their shareholders matter, too. Winning retailers are solving this seemingly intractable problem: they self-report that they are pleasing their customers who vote with their wallets, but also recognize that to continue pleasing their customers, they must have the right product available for sale at the right time. Concurrently, they also acknowledge the importance of satisfying shareholders by making better use of invested capital (Figure 1).

One key to breaking this retail paradox is to employ the information retailers have been gathering for years, but rarely using: customer data.

CUSTOMER DATA IS STORED, BUT OFTEN NOT AVAILABLE

The difficulty in informing decision-making with customer information is certainly not caused by a lack of data. As even the most casual shopper knows, retailers capture reams of it. From market basket transaction data captured at the Point of Sale, to customer-specific data captured through POS or loyalty programs, to data purchased from third-party providers, or even data gleaned from surveys and focus groups, retailers have massive quantities of customer information. However, they’ve been unable to spread the data across the organization in a timely or regular fashion.

Our survey respondents report that customer data is most typically used by the marketing and merchandise department to plan and analyze promotions, but is used far less frequently for assortment and space planning, in-store team enablement, or even for collaborating with suppliers

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to improve the quality and quantity of merchandise brought into the retailers’ many selling channels.

FULFILLING THE PROMISE OF CUSTOMER DATA

Retail winners have found that identifying an explicit, rather than implicit owner of customer data, no matter which department that owner may reside in, facilitates the usage of that data across the enterprise. These winners obsess about the quality of store-level data and are willing to invest to get what they need.

Legacy POS hardware and software can only take a retailer so far. A well-architected and modern POS system that can accurately capture customer-related market basket data and is integrated to upstream business intelligence capabilities can provide accurate and timely information to customize the store experience and meet true consumer demand.

Using customer-demand data, in addition to product, location, and time to localize their product and service offerings, retailers can get closer to the neighborhoods that their stores operate in, and offer solutions that are more relevant to specific consumers. This is the essence of 21st century retailing.

Editor’s Note: Nikki Baird and Paula Rosenblum are managing partners at Retail Systems Research.

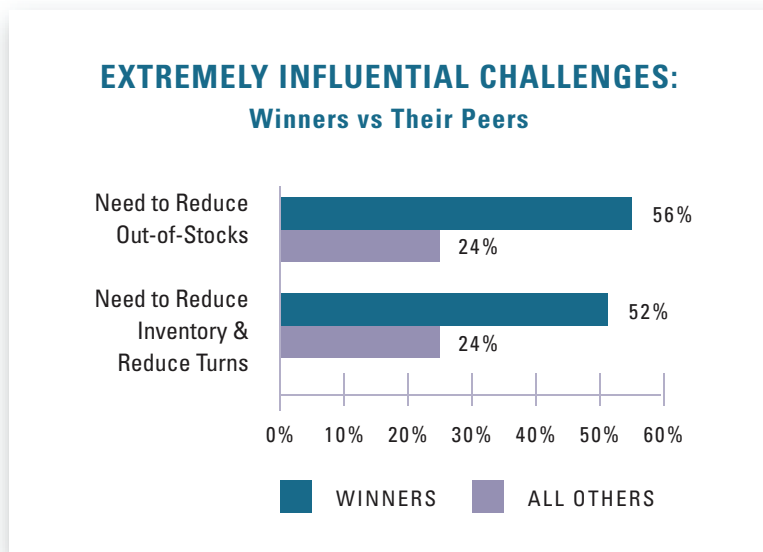


Figure 1

FOUR “RS” OF GOING GREEN

By Ed Soladay

Green is the new black, as fashion experts say.

Whether retailers believe the current environmental movement is just a fad or is here to stay, the reality is that American consumers are increasingly adopting an eco-friendly mindset and are expecting the companies they do business with to do the same.

Recent reports like the “BBMG Conscious Consumer Report” from marketing firm BBMG show that consumers want companies to walk the talk when it comes to environmental promises. The study also shows that consumers are conscious of which companies have done the most for the environment. The leader is Whole Foods, a retailer picked as most responsible by 22 percent of those surveyed.

Contrast that with a recent Forrester Research study of 124 IT operations and procurement professionals that said while 85 percent of respondents think environmental factors are important in planning IT operations, only 25 percent have written green criteria into their company's purchasing processes.

So, clearly, environmental goodwill among most organizations is high, but actual and perceived barriers often stand in the way.

As the green trend continues to blossom, there are four general guidelines that retailers can follow to create a more eco-friendly enterprise – the Four “Rs” of going green.

RECYCLE.

Long preached as a basic means to improve the environment, recycling is the reuse of materials and objects in their original or changed forms, rather than discarding them as waste.

If a retailer provides plastic or paper bags for merchandise, one option is a store recycling program where customers can return used bags for a special bonus on your loyalty system.

On the flipside, some grocers – and even entire cities – are eliminating plastic bags altogether in place of reusable canvas bags or boxes that consumers can purchase for a nominal fee. Each time shoppers use the bag or box, they can be rewarded with either a discount or loyalty bonus.

Contrary to some beliefs, technology also can impact recycling. For example, emerging electronic shelf label (ESL) systems completely replace paper labels with tiny electronic displays that can be moved and reused at will. In addition, the centralized, automated system reduces

the copious labor costs required to manually update traditional paper-based labels.

REDUCE.

ESLs also can have an impact on another green guideline, waste reduction and energy conservation. By eliminating traditional labels, ESLs reduce the amount of wasted paper and ink across a retail chain.

Also, modern point-of-sale (POS) hardware is specifically designed with processors and other components that work more efficiently than their predecessors and reduce the amount of energy used. In general, in-store technology and equipment that meets government ENERGY STAR standards can dramatically reduce energy consumption.

Additionally, recycling and waste reduction often go hand-in-hand: The more a company recycles, the less waste it produces.

RENEW.

Consider energy sources that renew themselves naturally such as hydropower, solar, wind and geothermal processes.

For those in areas with deregulated energy utilities, options are often available with eco-friendly providers. Taking it a step further, some retailers are testing on-site solar energy methods to provide all power – or a good portion of it – for an entire store. Others companies even harvest rainwater at their stores and use it via a drip irrigation system to water surrounding landscape.

REACH OUT.

Let your community and customers know that your company is focused on environmental improvement. Store signage, advertising and support of local green programs can build awareness for a retailer's environmental philosophy and initiatives while educating customers about their own environmental responsibilities.

A talking frog once said, “It's not easy being green.” But by following a few eco-friendly guidelines and deploying cost-effective green initiatives and technology, both retailers and the earth can emerge triumphant.

Editor's Note: Ed Soladay is Chief Operating Officer of Fujitsu Transaction Solutions Inc.

