

A guide from Self-Service World and Kiosk Marketplace

Self-Service at Supermarkets and Grocery Stores



INSIDE: Thanks to the adoption of self-service technology at grocery stores, today's food shoppers can literally serve themselves at multiple areas throughout the store. Instead of waiting in long lines, shoppers can order their deli meats, pick up some flowers and a DVD, and then proceed to check-out, all in one area. This guide showcases the many different options for grocery store self-service and how to implement them correctly.

Developed, published and sponsored by:

selfserviceworld™

KioskMarketplace
.com

Contents: Self-Service at Supermarkets and Grocery Stores

Page 3	About the Sponsor	
Page 4	Introduction	A whole new world
Page 5	Chapter 1	A history of self-service in the supermarket Where did it come from? Make it a great customer experience
Page 9	Chapter 2	Self-checkout Are consumers using it? Staffing still counts Cash or cashless? Check-out of the future Self-return ROI
Page 20	Chapter 3	Food ordering Self-order Case study: Hannaford Supermarkets The solution The results
Page 24	Chapter 4	Assisted selling Digital signage Healthy kiosks
Page 30	Chapter 5	Cart-level self-service RFID: The future? Mobile devices
Page 32	Chapter 6	Miscellaneous DVD rental A place to convert your change and pay bills
Page 35	Chapter 7	The future of grocery self-service Case study: Giant Foods
Page 41	Appendix	Additional stories from Self-Service World

Sponsor: Self-Service at Supermarkets and Grocery Stores

About the sponsor

selfserviceworld™ *Self-Service World*, owned and operated by Louisville, Ky.-based NetWorld Alliance, is the world's largest online provider of information about and for the kiosk and self-service-technology industries. The content on the site, which is updated every business day and read by business and industry professionals throughout the world, is free.

Published by NetWorld Alliance.

© 2008 www.networldalliance.com

All photos courtesy of IBM Corp. unless otherwise specified.

Written and edited by Patrick Avery, editor, Self-Service World and Kiosk Marketplace

Dick Good, CEO

Tom Harper, president and publisher

Bob Fincher, executive vice president and general manager, Technology Division

Joseph Grove, vice president and associate publisher

Introduction: A whole new world

Do you remember what your hometown grocery store used to look like? I'm sure it's not what it looks like now.

For me, the grocery-store experience of my childhood consisted of rides in the shopping cart, long lines at the deli, friendly check-out employees and lots of tabloid reading. Many of those things still exist, but yesterday's grocery environment doesn't come close to the amusement park of machines, items and opportunities available at today's supermarkets.

Small, medium and large grocery chains have evolved into more than just a produce section and a bread aisle. The stores of today provide a unique shopping experience for customers looking for a quick and more efficient way through the store.

The notion that retailers will provide a unique shopping experience is a relatively new concept. Unlike most store technologies over the last few decades, self-service options truly give retailers the chance to provide this unique experience. If successful, you separate yourself from the pack. If a deployment is unsuccessful, you risk lowering customer satisfaction – or worse, losing customers.

Thanks to the adoption of self-service technology at grocery stores, today's food shoppers can literally serve themselves at multiple areas throughout the store. Instead of waiting in long lines, shoppers can order their deli meats, pick up some flowers and a DVD, and then proceed to check-out, all in one area.

The self-service trend – through self-check-out – kiosks or other mobile devices, has been in grocery stores for a few years now. And its popularity has never been more evident. Almost every time I head into a grocery store now, there is a line to use the

self-checkout lanes, an indication that stores might need a few more machines to handle the increasing consumer demand for choice and do-it-yourself technology.

As more and more people continue to choose the self-service route, grocery store employers will most likely begin adding more systems. And I predict that those without self-service in their stores will get with the program.

The following research guide will give you an insight into grocery self-service. It's designed to give you an overview of the multiple facets of self-service in the grocery environment.

It also provides examples from several grocery chains and companies that have implemented self-service successfully, including some of the things they did wrong and how they fixed them.

After reading this guide, you will have the basics for deploying self-service in grocery stores and supermarkets.



Patrick Avery, editor,
Self-Service World and
Kiosk Marketplace

Small, medium and large grocery chains have evolved into more than just a produce section and a bread aisle. The stores of today provide a unique shopping experience for customers looking for a quick and more efficient way through the store.

Chapter 1: A history of self-service in the supermarket



“Then: Early version of self checkout belted lane, circa 1989” and “Now: The full belted self checkout is just one of many options available to the grocery retailer.”

The people of Memphis had never seen anything like it. When Clarence Saunders opened his first Piggly Wiggly in 1916, a grocery store was a place where you told the clerk behind the counter what you wanted, and he fetched it. In Saunders’ store, patrons roamed freely among shelves packed with goods. They took what they wanted and paid on the way out. The “self-serving store,” as Saunders called it in his patent application, revolutionized retail, much as ATMs and pump-your-own gas later re-engineered other industries.

Yet it was all simply prelude. Only now are technology and public sentiment aligning to truly shift the responsibility of collecting goods and services to the consumer. Consider the last time you rang up your own purchase at Wal-Mart, checked into a hotel at a kiosk or bought a ticket from a machine in the lobby of a movie theater. Companies love self-service for the money it saves, and with consumers finally playing along, the need to interact with human beings is quickly disappearing.

— Time Magazine, March 2008



Now: The full belted self checkout is just one of many options available to the grocery retailer.

Chapter 1: A history of self-service in the supermarket

Where did it come from?

Self-service at a broad level has been in groceries in some shape or form for a long time, said Paul D’Arco, segment manager for IBM’s Retail Store Solutions. Self-service first appeared in the grocery arena in the form of self-checkout. D’Arco credits a company called Productivity Solutions, Inc., which IBM later acquired, with delivering the technology that started the move to self-checkout in grocery stores.

Development of self-checkout dates to the mid 1980s. There was not much success at the beginning because most of the earlier devices were not highly adopted. But toward the turn of the century, self-checkout technology improved, and companies like PSI and IBM began to see breakthroughs.

The first successful deployments were clients of PSI — Winn-Dixie, Giant Eagle and Food Lion, among others — and took place in the late 1990s, D’Arco said. PSI’s solution looked at self-checkout as a true alternative for consumers to use for any size order, not just for small orders. Its patented belted-lane design offered a fast, easy and convenient way to handle both full- and express-size orders, which presented consumers with more choice and a viable way for retailers to open up additional lanes to increase revenue.

Optimal Robotics, another company that developed self-checkout technology primarily focused on express self-checkout options, deployed machines at Kroger grocery stores. Optimal was later acquired by Fujitsu.

NCR Corp. has also been involved with grocery self-service since the 1980s. Laserdisc-based self-checkout machines were their first product. John Saccomanno, director of NCR’s Food, Drug and Petroleum Industry Marketing, recalls that those early machines were very costly and hard to produce.

“It wasn’t a very successful venture,” Saccomanno said. “It was a very high-cost, low-return situation.”

Most of NCR’s first kiosks in retail stores were price checkers or information kiosks.

“They were very low return on the dollar,” he said. “So it wasn’t a very successful venture at first.”

The push for self-service by retailers finally began gaining success when ATMs made their way into stores. Self-checkout began appearing in groceries in the 1990s. Other self-service devices followed, including kiosks and mobile devices to handle a number of different applications, including self-ordering, assisted selling, self-weighing, product-locator, and mobile-checkout, among others.

Chapter 1: A history of self-service in the supermarket

Make it a great customer experience

The following article by Tamara Mendelsohn, an analyst for Forrester Research, was originally published in Self-Service World magazine.

In grocery, the store experience matters more than ever. Net margins are abysmal, hovering around 1 percent for the past 25 years. The success of Wal-Mart with low prices and Whole Foods with high-end products squeezes every supermarket in the middle, and traditional grocery stores have lost an average of 14 trips per customer annually to other channels like dollar stores.

Many grocers are fighting back with strategies to build customer relevancy, but a good strategy is only one piece of the puzzle. Solid execution in the form of an enriched shopping experience is the other. What does this mean for grocers? The shopping experience is the new battlefield for consumer mindshare and loyalty, and consumers will grant their loyalty to those grocers who can meet their needs for personalization, value and convenience.

Three factors have developed at the right place and time to help grocers win: Consumers are growing more comfortable with self-service, technology prices continue to fall and grocers continue to purchase more in-store bandwidth.

As a result, grocers now can and should use technology to accomplish the following:

- Connect with consumers as they enter the store. Experiment with technologies that engage patrons at the beginning of their trip, like kiosks that generate coupons as they enter the store. Commonly, grocers offer shoppers customized coupons when they check out, giving them no chance to affect the current visit — and consumers don't always remember to bring them back. Proper focus on kiosk hardware, software and environmental usability throughout the store will ensure a smooth customer experience and aid adoption.
- Deliver personalized promotions. Shoppers want promotions and discounts on products that interest them. When asked how interested they were in various services within a grocery store, consumers picked personalized coupons as their top choice. Grocers that allow consumers to build shopping lists at home on the Web and then access them in the store can save consumers time (see the next item) by highlighting where products on their list are located in the store and remind them of previously purchased products that they might want to buy. Grocers can use the shopping-list information to offer targeted promotions on items

Chapter 1: A history of self-service in the supermarket

on the list when it is printed out in the store, ensuring that offers are both relevant and timely.

- Help consumers save time. Placing order kiosks at the deli and bakery helps consumers skip long lines and continue shopping while they wait for their orders to be filled. One grocery chain that is piloting deli-order kiosks found that both the number of orders and the average order size has increased since implementing the kiosks. Other grocers are piloting portable devices situated in shopping carts, allowing customers to place their deli orders without having to go to the deli counter and then alerting them when their orders are ready for pickup. Grocers should expand this concept to offer alerts for pharmacy prescription pickup and other service departments like floral or catering.

- Offer entertainment selectively. Although most consumers aren't as interested in being entertained as they are in saving money and time, grocers and retailers that have experimented with in-store television networks and digital signage at the point of sale have

found that perceived wait time is shortened and customer satisfaction improves. Grocers can use this opportunity to build their brand with programming on organic farming, healthy living, gourmet cooking or community initiatives, or they can provide local news and weather spots.

While prices have come down over the past few years, deploying in-store technology still is no small feat. When evaluating how to begin on this path toward relevant, technology-enabled experiences in the store, grocers should not overlook best practices like careful piloting, usability testing and properly enlisted frontline employee support.

Chapter 2: Self-checkout

Self-checkout is not just an option, it's becoming a necessity, said Dennis Uhrich, a certified sales specialist for IBM's Retail Store Solutions. He actively works with 17 grocery chains from Portland, Maine, to the Carolinas. Those retailers have deployed hundreds of self-checkout lanes.

"We are seeing a new generation of grocers that are finding self-service is part of the price of doing business," Uhrich said. "Customers are demanding that this technology be a part of their store experience."

Self-checkout has been adopted by many store owners as a means to help shoppers get through the lines quicker. With more grocers staying open longer, some even 24 hours, grocers have adopted self-service as a way to keep customers from waiting in long lines, often due to only one check-out lane being open.

"These self-service lanes allow retailers to provide more service opportunities," Uhrich said. "And the consumers love them."

It's also about choice. Consumers today are demanding choice to use self-service when and where it helps them interact and transact the way they want to. Perhaps after a particularly exhausting day at work, I won't feel like using self-checkout at the store, but all the other times



With more stores staying open longer, some even 24 hours, grocers have adopted self-service as a way to keep customers from waiting in long lines, often due to only one check-out lane being open.

"We are seeing a new generation of grocers that are finding self-service is part of the price of doing business."

**– Dennis Uhrich,
a certified sales specialist
for IBM's Retail Store Solutions**

Chapter 2: Self-checkout

when I want to have control and convenience, I'll choose to use self-checkout instead. Give the consumer that choice.

"Demographics don't matter either. All age groups, including the older demographics, like to use it," Ulrich said.

"One customer I talked with likes the control aspect of it," he said. "She can control the speed and pace of the transaction so she can pay closer attention to the prices being registered."

Privacy is an important aspect in the appeal of self-service as well.

"With self-service, people like that they don't have to share their purchase with a bagger or cashier," he said.

The younger demographic has grown accustomed to self-service technology; it's a part of their daily retail experience. And parents have learned to engage their children in transactions to keep them occupied.

"The experience and the flow of the transaction is at a level that customers find nothing to criticize anymore," Ulrich said. "We have taken the lessons learned and made the whole experience friendly and inviting."

Success with self-checkout can result if you do your homework and share with your employee base what you are doing, Ulrich said. The technology

"Control" can be broken down into the following components:

Privacy means that customers can be discreet with items about which they are personally sensitive (e.g, pregnancy tests, other personal hygiene products), as well as the coupons they use.

Trustworthiness means that shoppers feel more comfortable because they know what they purchased, what it costs and that the change they received is accurate.

Handling means that shoppers handle their own items. Shoppers can pack items in the order they would like to unpack them at home. Also, shoppers can be sure their fragile items were handled with care.

Speed means that people perceive that there is less wait time because they are actively engaged in the process.

Convenience means that people want a self-checkout option that is easy and convenient to use.

– Fredrik Carlegren,
IBM's self-service marketing manager
for Retail Store Solutions

is not intended to displace labor; the most successful implementers use it to give the consumer one more choice, as well as a fast and convenient option at check-out.

An important aspect of making self-service technology a success, however, is the right kind of implementation, and that includes the proper training and education of store employees. Employees who are knowledgeable and supportive of self-

Chapter 2: Self-checkout

checkout can make a big difference. Grocers should assign a strong individual or shopper assistant to keep an eye on self-checkout lanes and to encourage people waiting in full-service lines to use them — and then show them how.

“Chains that are doing those things are the most successful and are seeing more than 30 percent of their sales going through those self-service lines,” he said.

It’s also important not to go into a deployment with the attitude that “if you build it, they will come,” he said. “Do research and plan the deployment effectively. Train the appropriate people and tell them you can drive sales through the self-service lanes.”

Employers who treat this position as a promotion or one of increased responsibility often get better results, he said. They raise the status of this position.

“Some stores have built such a bond with consumers that demand has gone past the traditional three or four self-checkout lanes to the point where almost 40 percent of some stores are self-service,” Urich said.

Are consumers using it?

When Phillip Boaz heads home from a day at the hospital, his trip usually involves a stop at the grocery store.

An infection-control specialist in Woodlawn, Texas, Boaz says he will often use self-checkout, even if there are no lines at the traditional lanes.

“It is quick when I have few items and am in a hurry,” he said. “And I like using the scanner — it’s fun.”

For Charles Kaplan, a retired attorney in Louisville, Ky., the experience is very different. He has tinkered with self-checkout with mixed success and has determined that it is not for him.

“I’ve found self-checkout machines to be less intuitive than they could be,” he said. “I hate having machines talk to me. If one is using cash, it’s always a pain — sometimes the laser won’t read the bills. I never have the right amount of silver. I’ve had problems with scanners. The few times I’ve used them, I’ve always had to call the clerk for assistance.”

But the popularity of self-checkout is growing, according to a market study.

A 2007 IHL Consulting Group market study on self-checkout found that 98 percent of respondents have used self-checkout, almost 50 percent have used it more than five times in the previous years and 72 percent have readily accepted the technology in the marketplace. The study also projected that in 2008, consumers will spend more than \$230.7 billion on self-checkout transactions at retail stores, up 28 percent over 2007.

Chapter 2: Self-checkout

“Self-checkout not only continues to gain widespread acceptance with consumers, but we are also seeing that self-service solutions are paying off for retailers,” said Greg Buzek, president of IHL Consulting Group. “Our research shows that retailers that have embraced self-service technologies are redeploying labor to key profit areas, improving customer service with more lanes and improving profitability by increasing the number of profitable transactions.”

Though nearly 100 percent of shoppers have used self-checkout, there are certain strategies and guidelines to follow so the experience can be a pleasant one for customers.

Staffing still counts

If you build it, they will come. But if they come and it doesn't work right, they won't come back.

That's the lesson SUPERVALU/Albertsons supermarkets have learned since they installed their first self-checkout lanes in 1999. Beginning that year, Albertsons installed self-checkout in about 1,200 stores. SUPERVALU acquired 706 of those stores in 2006.

As the reliability of self-checkout technology has improved and customers have become accustomed to using it, savvy retailers like

SUPERVALU/Albertsons have found that proper staffing is the key to making customers happy.

“Retailers improve their odds of success with self-service check-outs when they train attendants properly and staff the self-checkout areas appropriately,” said Kathy Dawidowicz, product marketing manager for NCR's FastLane products.

“If a shopper has a problem and nobody pays attention, then that shopper has a bad self-service experience. But if the shopper has a positive experience, the likelihood of trying the technology again improves greatly,” she said.

Employees who staff a self-checkout lane are ambassadors for the concept and do far more than simply answer questions. “They also have a marketing role, making sure they're pulling consumers into self-checkout,” Dawidowicz said. “They have to encourage shoppers to use the lanes, training customers who might not be familiar with the technology and doing it in way that shoppers don't find intimidating.”

To maintain a high level of reliability, SUPERVALU/Albertsons developed a certification program for store associates who staff the self-checkout lanes. Store managers identify their most energetic and outgoing associates for the program, which is

Chapter 2: Self-checkout

repeated every six months. The need for training is constant.

“When there is employee turnover, we ensure that every associate who assists the customers is trained and certified. And previously trained associates receive a refresher course,” said Vicki Van Alstine, manager of self-checkout and mobile shopping for SUPERVALU/Albertsons.

The training covers all the functions on the self-checkout systems and basic maintenance procedures such as cleaning the cash acceptors and the glass on the barcode scanners.

“It’s all about the customer experience and to ensure the customer has a good one,” Van Alstine said. “If a self-checkout is broken or damaged, that’s one less lane a customer can choose to use.”

SUPERVALU/Albertsons sees self-checkout as a customer convenience. It’s a check-out choice, not a labor-saving device. Consumers can opt for the traditional check-out, the express lane for fewer items or the self-checkout.

“Most importantly, self-checkout provides customers privacy because not every customer wants to display the items she is purchasing,” Van Alstine said. “And customers can organize their groceries as far as what items go in which bag. Not every bag goes into the kitchen.”

With its long history in self-checkout, SUPERVALU/Albertsons has worked with NCR to customize the applications, based on customer and associate feedback. Calls about self-checkout to Albertsons’ customer complaint center have dropped dramatically, but in the early days customers provided valuable feedback about what worked and what didn’t work.

“Each time we get a dissatisfied customer, we truly listen to them to see what we could do to avoid the situation occurring again,” Van Alstine said. Information gathered by the system also guided some changes.

“SUPERVALU/Albertsons looked at the data coming out of the system to help fine-tune the way the application works,” Dawidowicz said. “Retailer-specific parameters in the software allow them to suit their store practices. In areas like loss prevention and fraud, options can be set to minimize the interventions that would interrupt shoppers but still protect retail operations.”

SUPERVALU/Albertsons deploys several system enhancements per year to its self-checkout devices, thus ensuring that customers who use them have all the conveniences of the other lanes. “If we add gift cards or Pay-By-Touch to the traditional lane, for example, we include it in self-checkout because we think customers shouldn’t

Chapter 2: Self-checkout

be inhibited from using it. We always make sure customers have that choice,” Van Alstine said.

Cash or cashless?

Cash. It was once a requirement for shoppers but is now just one of many payment options. But now, according to a Nilson Report, Americans prefer to use non-cash payments for their purchases. Cards account for more than half of all transactions, up from 29 percent a decade ago, and the average household has more than 10 credit cards. In addition, “smart cards,” automated payment systems that use wireless technology to enable consumers to make a fast payment without initiating a formal transaction, continue to emerge in a variety of marketplaces.

While cashless payments aren’t necessarily increasing at the same rate worldwide, it’s safe to say that in general, cash usage is on the decline. With this growing trend, retailers now have the option to offer cashless self-checkout to satisfy their customer base and reduce cash-handling and maintenance costs.

Retail environments vary widely — and so do the consumer transactions they process. That’s why, when considering a cashless self-checkout solution, it’s important to assess the key characteristics of your specific

Potential benefits of offering a cashless self-checkout option

- Reduce cash-handling costs by eliminating manual processes. With no cash till to count and manage, opening and closing out cashless self-checkout stations for the day is simpler than with cash-accepting models. Implementing cashless models can help reduce your staff’s workload and can help decrease your cash-handling costs.
- Improve customer satisfaction by speeding payment transactions. Because debit and credit transactions can be completed significantly more quickly than cash transactions, cashless self-checkout models can help increase transaction speed, reduce register lines and improve customer satisfaction.
- Increase sales. “Visa thinks...that people liberated from what happens to be in their wallets spend a fifth more” (The Economist). Leverage this tendency to encourage your customers to spend more and increase your sales.
- Decrease maintenance costs by simplifying your technology. The currency-handling components are some of the most complex in any self-checkout system. Removing these components results in a simpler hardware configuration that can require less maintenance, potentially decreasing your maintenance costs and accelerating your return on investment.
- Lower up-front costs. Cashless self-checkout models contain fewer components, which can help reduce your initial investment. You can choose lower-cost cashless self-checkout models to add check-out lanes in your store, while staying within your budget.

Chapter 2: Self-checkout

retail environment, with particular attention given to the following issues.

First, it's important to understand the preferences of your customer base. Look at the number of debit and credit transactions, rather than the percentage of debit or credit sales. A retailer that generates 95 percent of its sales from debit and credit transactions still might not be a good candidate for cashless self-checkout, if that 95 percent of sales comes from only 50 percent of its customers. Also, examine how your customers' payments break down by order size as well as by number of customers.

Next, look at the volume of cash handled by your operation on a daily basis. Specifically, examine what percentage of your debit customers get cash back on their transactions and how your customer service would be impacted if this option is not available in every lane.

Also, look at your cash-handling costs and figure out how you could implement the right mix of cash-accepting and cashless self-checkout models to reduce these costs while still offering your customers the choices they want.

Lastly, carefully evaluate your store and check-out lane layouts. Retailers whose stores have large front-ends and lots of lanes are excellent candidates for cashless self-checkout

solutions. Such check-out lane configurations can offer you the flexibility to utilize both cash-accepting and cashless lanes and help increase your customers' choices. The exact mix of cash and cashless depends on your customer base and customer preferences.

Check-out of the future

Barcodes have been around since the 1970s, and while the technology that does the actual scanning of them has improved, another part of the process has not: Human arms are just as slow today as they were when the first box of macaroni and cheese went under the flickering lights.

A system known as the Real 360 may help speed up the process of going from shopping cart to the parking lot. A combination of segmented conveyer belt and a narrow tunnel of scanners, the assisted self-checkout solution was recently shown in late prototype form at Wincor World in Germany. When the bugs are worked out, ringing up a shopper's goods may take half as long.

Even the most experienced checker can process only about 30 to 40 items per minute. The Real 360 is designed to increase check-out to 60 items per minute — one per second, about a 100-percent improvement.

Chapter 2: Self-checkout



Here's how it works: The shopper approaches the scanner with his cart and puts no more than one item at a time on the belt, each going into about a foot-long partition. The item then passes through a collection of four scanners — top, bottom and both sides — which reads the barcode no matter which way the package is positioned. After being scanned, the item heads down rollers for bagging.

The Real 360 is planned initially to work with one cashier for one or two simultaneously operating belts, although one cashier for up to four belts is possible.

Some barriers remain before the prototype is ready for deployment. While Wincor representative Stefan

Pankratz said the design might be final in six months to a year, the company must first resolve the potential confusion that can occur when two or more items end up on the same segment of the belt. While the scanner might be able to catch multiple barcodes, more than likely one item will obscure the barcodes of the others. Image-recognition software, in which programming can match stored item images with real-time camera input, will spot the problem, stop the belt and alert a cashier.

Another issue: The scanners are catching only about 95 percent of the items run across the belt. Pankratz expects new scanners to increase reliability to close to 100 percent very soon.

IBM also recently announced a new self-checkout device that allows customers to check-out from just about anywhere in a retail environment. This new self-checkout solution, dubbed the IBM AnyPlace Checkout system, gives retailers built-in flexibility, improved customer service and a new tool for building customer advocacy for their brands.

Designed for small businesses and large-enterprise departments, the kiosk combines the compact footprint of the IBM AnyPlace kiosk with the capabilities of IBM self-checkout software.

Chapter 2: Self-checkout

Small to midsized retailers now can offer a fast, convenient check-out system for small orders, including those in specialty, drug and c-store environments. Large retail operations can complement front-end self-checkout with stand-alone placement of these units within grocery areas such as deli, floral or prepared foods, as well as departments of large stores and hospitality retailers.

IBM designed this technology in an effort to find additional, meaningful ways for retailers to attract, interact and transact with their consumers, said Fredrik Carlegren, IBM's self-service marketing manager.

"We want to ensure we work with retailers to provide a shopping experience that customers are looking for," Carlegren said.

Many times customers go into a store looking for one or two items, like a gallon of milk, a bouquet of flowers or that last-minute birthday card. These smaller self-checkout units, ideal for large-store department use or smaller-store formats, can be placed throughout the store and will allow those customers to get in and out more efficiently, he said.

A completely new self-checkout design, the IBM AnyPlace Checkout system, offers retailers new features and enhanced flexibility, making it easy for consumers to scan and

pay for their items quickly. This new self-checkout unit offers a variety of hardware and software enhancements that include:

- **Small footprint:** Designed with the IBM AnyPlace kiosk at its core, the unit offers one of the smallest self-checkout footprints available, making it attractive for grocers and other businesses that have limited floor space.
- **Customized enclosures:** The unit offers flexibility to utilize a variety of enclosures, including customized designs by IBM Global Technology Services or third-party vendors that match a retailer's "look and feel."
- **Cashless:** These units offer credit/debit payment options only, which speed transactions by eliminating the time it takes to accept and dispense bills and coins, as well as eliminating the problem of shoppers forgetting their change.
- **Manageability:** A component of IBM Store Integration Framework, the Remote Management Agent, enables retailers to achieve end-to-end store-systems management of retail devices and applications alongside traditional IT deployment. Across the enterprise, retailers can configure and monitor the system remotely, distribute software, track assets and determine and diagnose problems.

Chapter 2: Self-checkout

Self-return

Standing in line at a retailer's customer service desk can be an ordeal on a busy Saturday afternoon. NCR's new self-service solution, NCR FastLane Self-Return, enables retailers to provide more convenience to their customers during the often time-consuming and frustrating merchandise-return process.

"The ease of returning products is a significant factor in a consumer's purchasing decision. Our research finds that over half of consumers would prefer to shop at stores that offer a self-service solution to help speed returns," said Mike Webster, vice president of NCR's self-service solutions. "The first solution of its kind, NCR FastLane Self-Return provides retailers with a new vehicle for enhancing the consumer experience and building customer loyalty, while also improving staffing and operational efficiencies."

In a typical retail environment, the solution allows shoppers to return goods for a refund by first scanning the item and entering relevant product information. Next, the item is inspected by a store associate who can approve the return. A reimbursement is then issued in the manner the item was originally purchased — debit, credit, cash or gift card.

ROI

In addition to satisfying consumer demand for a more convenient, faster check-out experience, self-checkout solutions are designed to provide the following benefits:

- Better customer service. Adding self-checkout lanes means more open lanes, which helps to shorten lines and provide a faster check-out experience for consumers.
- Improved labor utilization. For each transaction and item scanned through self-checkout, retailers can save the labor that would have been needed to handle those items.
- Increased sales. Customers consider the check-out experience when making shopping decisions. Self-checkout is designed to offer a greater degree of choice and speed, which can affect shoppers' decisions about where to shop, especially for convenience trips.

Ultimately, self-checkout can help increase customer loyalty and enable a substantial return on investment. However, some self-checkout applications fail to deliver these benefits because they can take control away from the retailer and potentially degrade system reliability through less-than-modern integration approaches.

Chapter 2: Self-checkout

Such applications can be difficult to customize or add on to as your business needs change. In particular, solutions based on a closed or proprietary architecture can be challenging to upgrade and may require frequent interaction with the software vendor. Further, these solutions are often supported by a limited number of vendors and partners, which may force you to continue to deal with one specific vendor, regardless of the level of service you're receiving.

Chapter 3: Food ordering

Early adopters of self-service have been more open to other kinds of kiosks in the grocery store, according to Dennis Uhrich, a certified sales specialist for IBM's Retail Store Solutions. Many chains started out by using them as loyalty machines, giving frequent visitors special coupons and deals for products within the stores. The kiosks have now evolved into self-order, self-weight, item-locator and other types of machines.

One roadblock for these machines at first was the lack of fresh, updated content. For many customers, the machines became boring.

But today, many forward-thinking grocers have produced an exciting portfolio of applications. Innovative kiosks now provide meal-planning, wayfinding and prescription-refill services.

“You have got to present exciting applications that are not just in the corner of the store,” Uhrich said. “We are at a tipping point where I think we will see a wave of these applications in the stores.”

Self-order

The self-order kiosk is making a play in the supermarket and grocery space, led by companies like Modiv Media, NextChoice and NEXTEP Systems.



Grocers are using self-service applications such as meal-planning, wayfinding and prescription-refill kiosks to serve customers.

“You have got to present exciting applications that are not just in the corner of the store. We are at a tipping point where I think we will see a wave of these applications in the stores.”

**– Dennis Uhrich,
a certified sales specialist
for IBM's Retail Store Solutions**

Chapter 3: Food ordering

NEXTEP, a provider of automated ordering solutions, provided its Deli Express touchscreen ordering system to the Nino Salvaggio International Marketplace chain, home to some of Michigan's highest-volume deli counters.

Deli Express allows customers to order deli meats and cheeses from a touchscreen kiosk when they first enter the store. Customers continue with their shopping and pick up their deli orders about 10 minutes later. Deli Express eliminates waiting at the deli counter, saving customers' time and reducing congestion. Customers also have the option of receiving a text message on their mobile phone when their orders are ready.

Nino Salvaggio's Troy location served as the pilot for the system. After just two weeks in service, the store decided to roll out Deli Express systems to their other locations.

"It's a no-brainer," said Nino Salvaggio president Kirk Taylor. "Deli Express saves our customers time while expediting the deli operation. The Nino Salvaggio name has always been synonymous with excellent customer service, and Deli Express continues to strengthen that reputation. This solution serves as yet another way for Nino Salvaggio International Marketplace to set itself apart."

Modiv Media partners with Fujitsu Transaction Solutions Inc. to market and sell Modiv's DeliVision, a kiosk that provides coordinated queue management, self-service kiosk ordering, operations analysis and targeted promotions delivery. The coordinated offers and advertisements are located on the touchscreen self-service kiosk and on the deli department's overhead electronic display monitor, as well as on the printed-coupon tickets from the kiosk and the queue ticket dispenser. Modiv DeliVision relies on Modiv MediaHub, a campaign management and analytics engine, to coordinate the timing and delivery of the offers and advertisements across these touchpoints.

As part of the solution, shoppers enter their deli orders via the touchscreen on the Fujitsu U-Serv kiosk. Retailers can opt for multiple wireless U-Serv kiosks around the deli or throughout the store to increase visibility and usage. Shoppers can select a specific category, such as turkey or cheese; item, including store or other well-known brands; and weight and cut, such as thick, medium or thin. The associate-facing, Fujitsu TeamPoS 3000 terminals automatically guide deli associates to fill both counter and kiosk requests in the proper order.

Modiv DeliVision is being used by several grocers, including select

Chapter 3: Food ordering

stores at Stop & Shop and Giant Landover, and has now processed more than 8 million orders since it was first deployed in 2006.

NextChoice, a Portsmouth, N.H.-based company, offers automated self-service solutions for the restaurant, grocery, casino and stadium industries. The company's NextWave Intelligent Self-Service Systems integrates multiple customer-interaction points — from kiosks to counter orders, from phone orders to Internet orders — across all departments and stores using the same interface. NextChoice can even send friendly emails reminding forgetful spouses to buy birthday flowers. It also tracks inventory and offers promotions in real time in one or more stores, based on local inventory.

The following is an example of a case study Next Choice produced on one of its grocery store partners.

Case study: Hannaford Supermarkets

This case study is found at www.nextchoice.com/solutions/casestudy-hannaford.php

NextChoice Intelligent Self-Service solution delivers fourfold increase in self-service orders.

The company

Founded in 1883, Hannaford Brothers Company Supermarkets is headquartered in Scarborough, Maine, and operates 142 stores with 22,000 employees throughout New England. Hannaford Brothers Company is a member of Delhaize America, the U.S. division of Brussels-based Delhaize Group, with \$15.5 billion in sales and more than 1,500 stores from Maine to Florida. A recognized and respected leader in the industry, Hannaford's has a long history at the forefront of many important business and cultural changes that have shaped the grocery industry in the U.S. over the last century.

Many major supermarket chains are already testing and piloting self-service kiosks and Internet-ordering solutions to allow customers to order high-margin items from the deli, bakery, floral and prepared-foods departments. In 2004, Hannaford installed NextChoice's NextWave Intelligent Self-service System in the deli of its Rochester, N.H. grocery — a 58,000-square-foot superstore — and has averaged a fourfold increase in self-service deli orders per week. Hannaford's major goals were improving customer service, redeploying labor and increasing revenue.

Chapter 3: Food ordering

The solution

The solution includes a customer-activated kiosk at the store's entry, an employee-activated terminal at the deli counter, a refrigerated case to hold completed self-service orders, two prep screens, a customer-receipt printer and a second printer that prints labels that are attached to bags containing self-service orders. These completed orders are then placed in the refrigerated holding case for customer pickup.

Hannaford revamped the deli operation by dividing its 20 deli workers into two categories: One category takes orders, and the other fills them according to the prep screens. This redeployment of labor vastly improves efficiency because order takers can focus exclusively on face-to-face service for traditional customers while order fillers complete orders from the counter as well as the kiosk.

Another way the solution improves efficiency is by placing kiosk and counter orders in the proper place in the queue so that orders appear in sequence on the prep screens. Looking at multiple orders on the prep screen, order fillers can note when two or more orders have the same item. This allows them to fill those items simultaneously — reducing prep time and avoiding additional trips to the deli case. Customers ordering at the kiosk

receive a printout of their order that shows the estimated completion time.

The results

Hannaford has realized many of its goals. In addition to reducing average customer wait times by half during peak times, NextChoice's NextWave Intelligent Self-service System has reduced the amount of labor required to take orders.

As for labor redeployment, prior to installation deli orders were handled exclusively by employees. When the NextChoice solution was installed, initial kiosk orders totaled several hundred per week. Eighteen months into the deployment, that number has increased fourfold — and none of those orders needed to be taken by a deli employee. Customers who want to can still place orders directly with deli employees, so customer contact and personal service remains intact.

The deli manager also noted that typical customers usually ordered a few items prior to the deployment of Intelligent Self-service. Today, Hannaford is recording a 75 percent increase in the average number of deli items being ordered through the kiosk, with a wider variety of items.

Chapter 4: Assisted selling

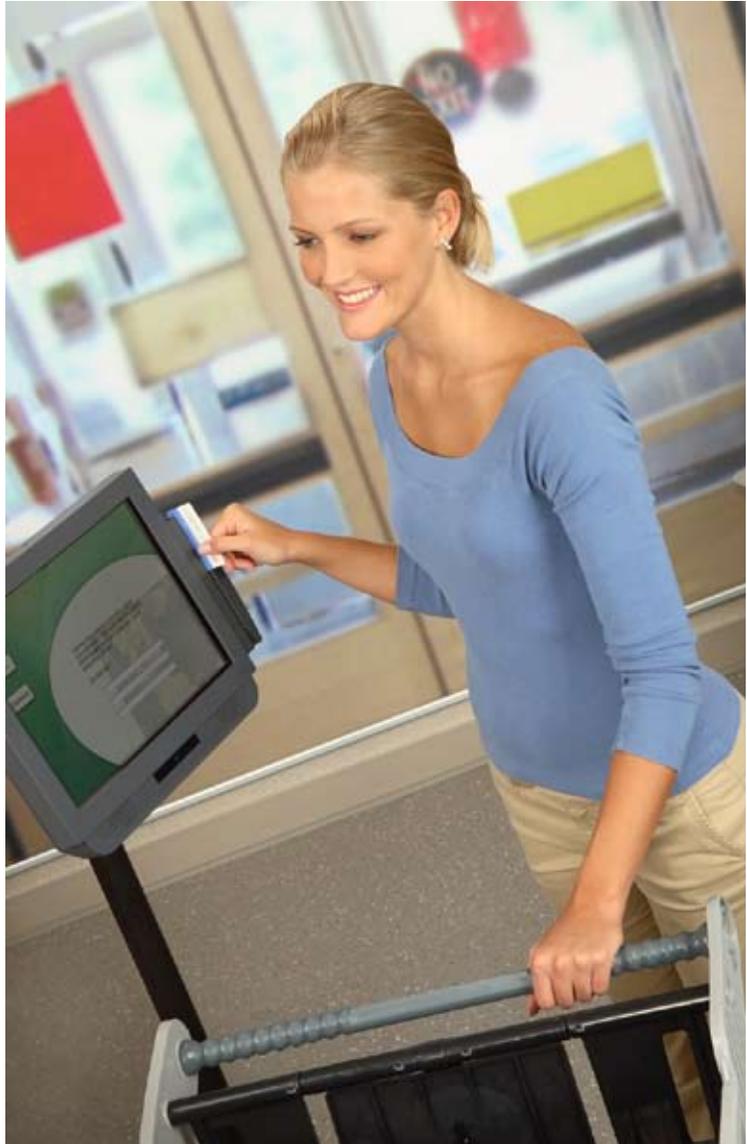
For Europeans, Tesco, headquartered in Cheshunt, England, represents one of the largest retail chains. For those in the digital-signage industry, Tesco is an example of one of the most extensive digital-media networks in deployment, and one that has seen its ups and downs.

Digital signage

Tesco is an international grocery and merchandise chain and is Britain's largest retailer in both worldwide sales and domestic market share. Globally, it is the world's fourth-largest retailer, behind Wal-Mart, France's Carrefour and The Home Depot.

In 2004, the store rolled out what would become one of the largest digital-signage undertakings to date. The company's goal was to launch an in-store television network that could be supported by a digital-media network that relies on IP-satellite connectivity. The network would supply advertising and in-store promotions to stores in the chain. In an effort to entertain customers, the TESCO TV network would also narrowcast news and entertainment content to Tesco shoppers.

The non-promotional content ranged from cooking and recipe instructions to cartoons for children's entertainment. Local TV news also ran on the channel every half hour.



A host of self-service applications can help grocery customers plan meals and gain a whole different customer experience.

Chapter 4: Assisted selling

Suppliers of products featured on the TESCO TV network paid to have their products advertised, like any other advertising medium. The costs of the TESCO TV network were in turn covered by the advertising revenue from product suppliers. The idea to feature advertisers on the network was borrowed from traditional television networks and is called “digital ad insertion.” Advertisers can specify the times and locations that they want their ads to run. The Hughes network allows all of this to be controlled from one hub at a central location.

The “digital retail network” was designed on the notion that shoppers in a retail setting were more likely to accept advertising messages and purchase products simply because the advertisements were shown at the point-of-decision and point-of-purchase.

The satellite network was named TESCO TV and was powered by Hughes Network Systems’ Direcway broadband service. Hughes’ European division oversaw the project. In addition to providing the two-way satellite broadband infrastructure for TESCO TV, Hughes also managed the installation, operation, remote management and maintenance of the entire network.

The media players in each Tesco retail store were programmed to receive content from the Direcway broadband

satellite system. Direcway also supported multiple-content channels, allowing different content to be played on screens in different parts of each store.

“Being able to spot trends allows us to significantly grow our content for those products and help our retailers catch that wave as it starts to pick up. It’s a new form of business intelligence for retailers.”

— Jenn Lynch,
product director for Aisle 7

In each store that features TESCO TV, Hughes installed about 50 flatscreens of various sizes. Each network supported eight channels of content, with each channel being designed to play in a different area of the store. For example, in the entertainment department, the latest music videos were shown on the screens; in Tesco’s on-site cafes, customers could watch content such as the latest news, sports clips and other entertainment-focused programming.

Tesco was eager to see how customers and staff felt about the TESCO TV network and worked to get their opinions. They also had to make sure that stakeholders in the company saw this as an advantage rather than

Chapter 4: Assisted selling

something that would get on the customers' nerves after awhile. According to surveys administered by the store, a vast majority of the customers said that their shopping experience had improved since the deployment of the digital-media network. They also said they saw a benefit in receiving information while they were being entertained.

In the initial rollout of 100 stores, 62 Tesco-branded products were featured in advertising spots on TESCO TV. During trials of the network, the retailer found that those brands saw a 10 percent increase in sales.

In 2005, the Retail Solutions award for "Most Innovative Use of In-Store Technology" was given to Hughes and Tesco for their work on TESCO TV.

Shopping and cooking help: A match made in a grocery store

It's a familiar scene in many houses on the fourth Thursday in November: Relatives young and old chat together, cousins and siblings play football in the backyard and the introverts watch old Westerns in the basement. In the kitchen, an assortment of gourmet gurus peels aluminum foil off the Thanksgiving dishes they've prepared.

But how does an inexperienced cook even begin to contribute to the family feast?

One place to start is the grocery. Recipe and shopping kiosks come to the aid of those in dire need of culinary support. During the month leading up to Thanksgiving, some self-service devices provide recipes and shopping lists of ingredients for such culinary emergencies.

ShoptoCook, a provider of turnkey meal-content kiosks, places a seasonal button on its kiosks, which are deployed in more than 200 grocery and retail stores. Leading up to Thanksgiving, the kiosks provide dozens of basic recipes for turkey, stuffing, vegetables and desserts. Advanced dishes, not for first-timers, also are available.

"It's during that whole holiday season that people need help with what to cook," said John Picard, chief operating officer of ShoptoCook Inc. "Many are interested in trying something new."

In fact, Picard said, many experienced cooks want to impress and entertain their guests with new recipes. ShoptoCook's kiosk provides an assortment of new desserts and side dishes that were not an option the year before.

And when the feast is finished, the kiosk even has ideas for the leftovers.

"The seasonal buttons are very popular," Picard said. "It is a key part of what we offer."

Chapter 4: Assisted selling

Giant Food Stores, a deployer of several self-service solutions, offers its own Shopping Solutions and Recipe Solutions kiosks. The search capability lets eager hosts search for innovative Thanksgiving recipes. Its kiosks include recipes for roast turkey with cornbread stuffing, pumpkin pie, cranberry relish, roasted zucchini and yam casserole. Many of the recipes also come with preparation and nutrition information.

For those looking to inject some healthy alternatives into their Thanksgiving feast for friends and family with special dietary requirements, Portland, Ore.-based Aisle 7 Inc.'s Fresh Ideas kiosks offer tips and recipes for fresh foods and health-related products. The Aisle 7 kiosks include content about fresh foods, organics, diets, supplements and medications, as well as science-based product recommendations for managing health conditions — and even wines.

Connoisseurs who are especially serious about what they toast their turkey with can find kiosks that exclusively offer beverage assistance. According to a June Newsweek story, roughly half a dozen companies are testing and marketing interactive touchscreen wine kiosks for placement in grocery and liquor stores, as well as in wine shops. The kiosks allow shoppers to search for wines by name, grape, region, price or menu compatibility.

No matter what your experience level in the kitchen, self-service tools can help bring together a fine-dining experience.

Healthy kiosks

When shoppers began tapping Aisle 7 kiosks for information on exotic fruits that boost disease-fighting antioxidants, the company sprang into action.

Using the networked content-publishing capabilities of Aisle 7 LiveConnect — an interactive, in-store marketing platform with touchscreen kiosks designed specifically for supermarket, pharmacy and natural-product retailers — the company added health and nutrition content about exotic fruits to retailers' kiosks to meet the growing consumer demand.

Behind the scenes of LiveConnect is the Esprida Enterprise system that enables Aisle 7 to manage kiosks and capture a new level of business intelligence for retailers. It goes beyond what shoppers buy at the store to capture what's on their minds before they make purchases.

"Grocery retailing is a data-driven exercise, and retailers know what their shoppers are purchasing, but they don't have information on what their shoppers' interests are," said Jenn Lynch, product director for Aisle 7. "Usage data from Aisle 7 shows them

Chapter 4: Assisted selling

what shoppers are concerned about.”

LiveConnect offers real-time usage data on all aspects of the kiosk, including coupons and other promotional activities. For instance, retailers can see what recipes a user looked at before deciding on one to print.

“With the right level of attention, that could mean the difference between getting a jump on a trend or falling behind,” Lynch said.

Aisle 7 offers six “facings” or content areas for kiosks: fresh produce, meat, seafood, wine, pharmacy and healthy living. Each type of kiosk can be updated individually with unique content. With LiveConnect, Aisle 7 can manage networked kiosks without on-site intervention.

Usage data allows a retailer to tweak the offerings on each kiosk, such as a new-attraction screen or new coupons. A retailer can see how each kiosk performs relative to others in the store and how the store compares with others in the vicinity.

“A retailer can look at specific traits and distribute updates to all devices that meet the criteria,” said Bevan Hayes, director of client service at Esprida. “If there are low-performing devices, we can update them to improve traffic. New content can be distributed and scheduled with only a few clicks.”

LiveConnect also gave Aisle 7 the abil-

ity to install a new product release in May 2007, the first time the company completed a major release across multiple customers simultaneously.

“It changed the way we were able to do business with our customers,” Lynch said. “It allowed us to do an implementation with dozens of kiosks and monitor them all at once with one person, rather than placing calls to numerous stores.”

Retailers’ IT departments are reluctant to allow third-party access to their networks, but Esprida’s noninvasive, remote-management tools meet their tough requirements. The high level of security opens the door for the data-collection and content-publishing functions that Aisle 7 values.

“Aisle 7 is able to obtain the information it wants because retailers are confident sensitive data is never accessed or compromised,” Hayes said.

In addition to content publishing, Aisle 7 can remotely monitor the status of each kiosk and perform many maintenance functions. It can even switch to an out-of-order display mode, rather than disappoint shoppers who can’t print a recipe because the kiosk is out of paper.

With the connectivity of LiveConnect, Aisle 7 becomes a tool to help retailers gain insight into the minds and habits of their shoppers. Retailers are able to analyze the recipes shoppers print and

Chapter 4: Assisted selling

the kinds of health conditions, vitamins and supplements they research before they buy.

“Being able to spot trends allows us to significantly grow our content for those products and help our retailers catch that wave as it starts to pick up,” Lynch said. “It’s a new form of business intelligence for retailers.”

Chapter 5: Cart-level self-service

RFID: The future?

It's one of the Holy Grails of retail: A shopper fills her cart with groceries and rolls it to a check-out counter. Almost instantly, without a single item being taken out of the cart, the groceries are itemized and their prices totaled.

Radio-frequency identification, or RFID technology, is currently the best technological bet to make that dream a reality. But exactly when it will happen is a matter of no small contention.

Wincor Nixdorf, in partnership with IT component manufacturer Wanzel, has developed a prototype grocery cart called the RFID-Tango. According to Wanzel spokesman Rainer Eckert, the cart and its software platform will go a long way toward bringing about instant check-out.

The problem solved by the RFID-Tango is called bulk-reading. RFID chips broadcast their signal a thousand times a second. One reader attempting to comprehend multiple pings at once can get confused. (Imagine trying to digest a dozen overheard conversations at once.) The bulk-reading solution developed by Wanzel manages to tell voices to "shut up" when it has finished reading them. It can manage up to 100 items in one cart, reexamining the set of signals constantly for additional items and to

detect whether any items have been removed from the cart.

Eckert admits the remaining challenges are not insignificant.

First, the price of transmitters must come down. Currently, chips are under four cents each, with a 24-bit chip. The goal is to get them under two cents, which would make the technology less costly than barcode printing, which costs about two cents per package, owing to the exacting standards of bar width and readability.

In addition, current transmitters are metal-based, which limits the recyclability of the package. The goal is to make them polymer-based. Then, not only will the transmitters be recyclable, they also could be imprinted onto the package as part of the offset-printing process.

Finally, retailers and RFID component manufacturers must agree on standards such as naming conventions and broadcast guidelines, as well as develop and roll out a mammoth data-transmission and storage infrastructure.

Within a decade or so, Eckert believes, those problems will be solved, in a process similar to the one that eventually enabled barcode scanning. Whether that's in five years or 10 or 15, he's confident it will happen.

Chapter 5: Cart-level self-service

Mobile devices

Modiv Media, a retail interactive, media-delivery solutions company, and Motorola's enterprise mobility business have announced that Stop & Shop customers are the first to use the Modiv Shopper, a portable shopping assistant powered by Motorola's MC17 mobile computer. The handheld device, known as "easySHOP," gives consumers the option for "scan-and-bag" service and provides targeted savings to Stop & Shop customers.

The deployment of the Modiv Shopper in about 100 Stop & Shop stores saves customers time and money through self-service. Shoppers benefit from speedy check-out, instant price checks and running totals. Customers also receive tailored promotions based on their individual shopping history, redemption history, in-store location tracking and just-scanned items in aisles.

VeriFone also has the MX800 Series Price Checker, a multifunctional customer-interaction kiosk that can deliver multimedia promotions, double as a gift-card registry or loyalty program-enrollment kiosk and enable a variety of other customer-facing applications.

Chapter 6 Miscellaneous

It's not only about food anymore in grocery stores. Though the fresh apples and oranges, cereal and cookies make up the majority of purchases in stores, other non-food-related self-service devices occupy floor space.

DVD rental

Redbox's popularity doesn't stem from having the most kiosks deployed but from consumer buzz — as evidenced by last month's Self-Service World survey of the Top 10 Hottest Deployments. Redbox topped out at No. 1, as voted by readers of this magazine. But having the most kiosks deployed doesn't hurt.

With around 6,000 DVD-rental kiosk locations, redbox is the leader in the automated DVD-rental market, which also includes DVDPlay and The New Release (operators of the MovieCube kiosk).

"Redbox is firing on all cylinders," said Rufus Connell, research director for information technology at Frost & Sullivan. "It has good hardware and software, good marketing and good partnerships for its deployment locations."

The redbox business model is simple: Each kiosk carries about 500 DVDs, all of them recently released flicks. Redbox says the selection process is



part art and part science. Large and medium box-office films automatically make the cut, while a purchasing team selects lesser-known titles based on customers' perceived interest.

Customers select their movies using a touchscreen and swipe a credit or debit card for payment. Each movie costs \$1 per night to rent; if the movie isn't returned, charges cease after 25 days and the customer owns the movie.

DVD rental kiosks and coin-counting kiosks allow grocery customers the opportunity to do things at the store other than get produce.

“Redbox is firing on all cylinders. It has good hardware and software, good marketing and good partnerships for its deployment locations.”

**— Rufus Connell,
research director
for information technology
at Frost & Sullivan**

Chapter 6: Miscellaneous

“The \$1 rental is its biggest appeal, although the average customer ends up keeping it for longer than one night,” said Gregg Kaplan, CEO of redbox. Kaplan said the average rental time is a little more than two nights, but only a small percentage of people keep DVDs past the 25-day mark.

To return a movie, a customer inserts the DVD back into the kiosk, hopefully right-side up. (The DVD cartridge reads, “There is no special reward for putting the DVD back in the case the right way, but you’ll be a better person for it!”) Rented DVDs can be returned to any redbox kiosk nationwide, a feature that is unique to redbox, Kaplan said.

The model seems to be working. Redbox grew from 93,000 rentals in 2003 to 21 million rentals in 2006. The company recently surpassed 50 million rentals.

Redboxes are found in numerous grocery store chains, including Giant Food stores, Albertsons and Wegmans.

A place to convert your change and pay bills

The sight is common at grocery stores and other locations across the United States: People standing in front of dollar-green kiosks, tilting coffee cans and sawed-off milk jugs full of coins

over a metal grate and standing back while the kiosk counts the coins and displays a running tally on a monitor. They are like slots players, holding still while the machine decides how much cash the user will take home.

Now, the maker of that kiosk — Coinstar Inc. — wants to help people do more with their money than convert it from one form to another. The Bellevue, Wash.-based company is entering a growing field of financial-services providers that enable the unbanked and underbanked to pay bills without the intermediary of a checking account.

“Our intent and goal is to create a quasi-banking capability for those people who are not bankable or who choose not to work with banks,” said Charlie Crawford, senior product manager. “We believe we’ll be covering an area that’s poorly served right now.”

Coinstar began in 1991 in San Francisco with four coin counters but has since expanded to a network of more than 12,000 machines located mainly in the United States but with some in Canada, Puerto Rico and the United Kingdom. Over time, the fee users are charged has increased, to 8.9 percent of the amount counted, which is shared with retailers that host the machines. In 2005, many machines began offering users the option of loading the value of

Chapter 6: Miscellaneous

their coins — with no counting fee deducted — directly onto gift cards for businesses such as Starbucks.

“Most deployers want to model their financial-kiosk placements after their ATM placements, and doing so has proved detrimental for most,” he said. “Providing basic cash-dispensing services makes sense in just about any part of town, regardless of the demographic, etc. But self-service terminals, offering services like bill-payment and check-cashing, must be much more strategically placed.”

The new kiosk will use Coinstar’s existing user interface so customers will have very little that’s new to learn. It will be able to dispense a wide range of prepaid debit/cash cards, prepaid wireless and long-distance cards, gift cards and card reloads, all of which will be nondenominational to permit consumers the freedom to load any cash amount they want.

There will be no charge to use the financial-services kiosk unless there is a service or similar charge levied by the receiving company. The machines will be configurable for future products such as bill payment and money orders.

Coinstar also is hoping to incorporate its recent acquisition of Travelex into the kiosks, enabling the kiosks to transmit and receive money transfers worldwide.

The financial-services kiosk will initially roll out as a stand-alone machine, but if the model is successful, much of its functionality can be put onto existing Coinstar kiosks through product upgrades. Coinstar’s customers can then choose the all-in-one coin counter or the financial-services kiosk.

“Our intent is for the system to become a reload network so that any person with any branded prepaid card could come and load her card on our financial services center,” said Crawford.

Bob Baker, vice president of financial services for Coinstar, said the company’s vision was to enable bill payment not only on the financial-services kiosks but also on coin-count kiosks that are equipped with a bill acceptor and a card swipe.

The bill pay options on the financial-services kiosks will be regionalized to reflect local utility companies. Coinstar is also offering customers the option of self-branding the kiosks.

Chapter 7: The future of grocery self-service

As the grocery store evolves, some grocers are looking into the possibility of having a store that relies almost exclusively on self-service devices. One U.S. grocery chain thinks taking self-service to the extreme may be the solution to long queues and angry shoppers.

Fresh & Easy Neighborhood Market grocery stores, owned by the world's fourth-largest retailer, Tesco, introduced a self-checkout-only concept in November 2007 at a store in Hemet, Calif., just outside of Los Angeles.

"There is demand for this type of concept, and we expect other U.S. retailers to be watching Tesco closely for ideas on how to tap into this (concept)," said Jennifer Halterman, senior consultant at TNS Retail Forward.

Customers are now choosing stores based on the type of service they offer, industry experts say. But in an effort to appeal to customers, retailers are



“Looking forward, we are convinced that it will be much more than self-service in supermarkets; it will be about consumer service and the consumer experience.”

— Fredrik Carlegren,
IBM's self-service marketing
manager for Retail Store Solutions

Chapter 7: The future of grocery self-service

seeking to find a balance in the way they deploy self-service and full-service. It's a balancing act that should benefit retailers and more importantly, the customer experience.

The juggling of full- and self-service largely depends on a store's objectives and demographics.

Eugene Fram, a professor of marketing at Rochester Institute of Technology who keeps a close eye on trends in the retail marketplace, says that before a store can answer the staff and technology question, it must fully understand the problems customers want solved.

For example, if the store's customers are from two-income households with children, the retailer needs to take advantage of customer-friendly technology such as self-service check-outs and merchandise hand-scanners.

"These technologies enable the customers to make some basic purchases quickly, and they allow customers to spend more time with family and friends," Fram said. "Technology and staffing requirements need to be synchronized with customer understandings. Customers buy products and services to solve problems. Technology and staffing requirements are support functions."

With regard to technology, the secret to a successful customer-service plan is to know if your key demographic

will embrace self-service technology, according to kiosk consultant Francie Mendelsohn, president of Summit Research Associates. Even then, giving people the option of both types of services seems the way retail stores should go.

"To give people the option is still the smarter choice," Mendelsohn said. "That may not be true in 10 years, but it is the case now."

Fresh & Easy markets only offer self-checkout, with assistance as needed. Each store has between eight and 10 self-checkout lanes, divided between express and non-express. Fresh & Easy has continued to embrace this concept into 2008 and has added more stores.

The chain has expanded to about 50 stores in California, Nevada and Arizona. Tesco plans to open 200 U.S. stores by February 2009.

The big issue a store like Fresh & Easy may have with its all-self-service model, according to Mendelsohn, is keeping its machines working properly. Recently she's seen some stores remove self-service kiosks because they were not reliable. That lack of reliability can be frustrating for both customers and staff.

It's the same problem, Mendelsohn says, self-service kiosks had 10 years ago when they first entered the retail arena.

Chapter 7: The future of grocery self-service

“You’ve got to make them as reliable as ATMs have been,” she said. “If your whole business model is based on self-service, you had better not disappoint your audience.”

Another argument is that some demographics, particularly the elderly, will not be open to using self-service technology without help. However, no credible data supports that point.

“The human touch and the human interaction is powerful for most things,” he said. “You develop a relationship with someone who is knowledgeable about a store, someone who you trust. I don’t think that will ever go away. But some aspects of the customer experience will be automated in some way and will be accepted by consumers, including older ones, as more efficient, easier and more friendly if they do it themselves.”

Dennis Uhrich, a certified sales specialist for IBM’s Retail Store Solutions, said he thinks a mostly self-service store could work, though it may not work in all situations.

“Just like I think you need to offer self-service as a choice, you will also need to provide for that set of shoppers that will be seeking out a person to help with their transaction,” he said.

But there may be times when self-service is the only option, particularly dur-

ing third shift when fewer people are in the store. In that case, the store could equip an employee with a wireless device that alerts him if there is an issue with the self-service machines.

A store with all self-checkouts could work if it has a limited product line and customers are focused on value and getting in and out quickly, he said. “And I think we are reaching a point where someone would be willing to try it, perhaps in the next two to three years.”

Fredrik Carlegren, IBM’s self-service marketing manager for Retail Store Solutions also sees a bright future, particularly in grocery self-service.

“Looking forward, we are convinced that it will be much more than self-service in supermarkets; it will be about consumer service and the consumer experience,” Carlegren said. “At IBM, our emphasis is on providing better consumer service with innovative solutions, and we do that by working with our business partners. The Self Service Alliance Program (<http://www-03.ibm.com/products/retail/partners/alliance/>) we initiated last year is crucial to this objective. The program, which brings together companies building kiosk and self-checkout solutions from around the world, now has over 100 members and helps deliver the experience we believe consumers are looking for.”

Chapter 7: The future of grocery self-service

Case study: Giant Foods

Giant Foods' self-service store of the future

Parts of this article were originally published June 27, 2007 on SelfServiceWorld.com.

Giant Foods of Carlisle, Pa., offers its customers what most grocers do: food, household items, a deli, some specialty items, a pharmacy. What it didn't have was a means of uniting the various departments in a way that made shopping easier for their customers and less costly to provide. They looked to self-service and integration for a solution.

"When we were thinking this through, the emphasis was on what solutions we could enable that would allow us to provide our customers with greater convenience and greater comfort when they're shopping our stores," said Nick Montepara, vice president of retail operations and planning for Giant. "We spent a lot of time working with the various businesses before we even touched the technology, because I felt it was important not to get confused by any preconceived limitations of what technology can do."

After these brainstorming sessions, the Giant Super Food store in Camp Hill, Pa., raised the bar. It took multiple legacy applications and integrated them into a new kiosk network. Camp

Hill Giant shoppers can use any of the 13 self-service shopping kiosks to perform numerous tasks, from placing a deli order to refilling a prescription or printing out a recipe. The front-end interface changes depending on where it is deployed within the store, but after a couple of clicks, the user can access any function available for any part of the store. "The customer-friendly technology at the Camp Hill Giant store will go beyond the last wave of grocery retail innovations such as self-check-out and stand-alone kiosks," said Tony Schiano, president and chief executive officer of Giant Food Stores.

Giant tapped applications provider Agilysys, which teamed with St. Clair Interactive, IBM Corp. and Symbol Technologies Inc., to implement the multi-application kiosk system and a portable personal-shopper system.

The technology behind the solution

Giant's Shopping Solutions encompasses many different hardware and software solutions:

- Twenty-three self-service kiosk applications running on 25 IBM Any-Place Kiosks with Symbol MS 3207 MiniScan scanners and five large LCD digital-media screens, interfacing with content and operations integration and 14 legacy data sources.

Chapter 7: The future of grocery self-service

- Personalized offers and coupons based on a customer's shopping history, reference information from his or her loyalty card and look-up prices on various products throughout the store, via special applications developed by Agilysys.
- iPAL product locator software from Treo Systems, which allows shoppers to quickly locate items in the store.
- Applications from ShoptoCook Inc., which gives customers access to a wide variety of recipes.
- Applications from Aisle 7, providing content-rich health, wellness and pharmacy-related information.
- A common user interface using St. Clair Interactive's application templates.
- A custom-designed enclosure from Frank Mayer & Associate.
- A printer from Practical Automation Inc., for receipts and other printouts.

St. Clair's infrastructure software enables Giant's management to centrally control, manage and distribute store promotions based on the time of day to the kiosks and digital-media LCD screens located throughout the store. The company also played a major role as an application provider, integrating Giant's legacy technology systems with store ordering, customer loyalty, targeted

offers, product information, store amenities and community events.

System integration and team integration

Putting together this type of self-service solution wasn't all about the technology. It required a large cooperative effort by all parties involved, as well as the common goal to produce a solution that would help Giant's customers have a better shopping experience. Along with people from St. Clair, Agilysys and IBM, more than 50 employees of Giant took part in creating this new method of shopping.

St. Clair president Doug Peter said the experience was overwhelmingly positive.

"I always preach the gospel when we start on a project that it can't be just one department — it has to be representative of everyone who's going to be involved with the technology," he said. "And we must have had 60 different people in the planning meetings from all different departments of the company. There are so many different views of what this is doing for the company, and yet they've achieved their goal of having one platform."

Peter called the level of cooperation and cohesion among the partners, as well as between the partners and the client, unprecedented.

Chapter 7: The future of grocery self-service

“It was very productive to bring together so many different players who have individual interests but who saw the benefit of achieving an overall platform for the client,” he said. “The degree of integration on this project was far more complete than anything I’ve seen before. We’re linked into 14 different Giant back-office systems, and it was quite remarkable.”

Rolling out results

Since the beta rollout of the first system in August 2005 and the initial implementation in October, Giant Foods has brought one new Shopping Solutions store online every three weeks. Initially, Giant Foods planned only three stores with the initial solution, but six are online now, with more coming soon.

Appendix: Additional stories from Self-Service World

This article was first published on March 17, 2008, in Self-Service World.

The measurements of ADA

By Derek Fretheim, contributor

Derek Fretheim is president of Acire Inc., a consulting firm specializing in managing technology systems including self-service kiosks. He's worked with companies such as NBC, Compaq Computer, Long Beach Transit, the City of San Jose and the Los Angeles County Metropolitan Transportation Authority to develop self-service solutions.

Back in 1994, access to kiosks was not really considered with any project. That's no real surprise since regulations often occur after something is developed or demand creates equal-access rules. Sure, the Americans with Disabilities Act was law, but hardly anyone knew how to decipher it.

Today it is a much different story. Multiple kiosks are found in nearly every grocery store for various types of applications. It's true for regulations as well. The Americans with Disabilities Act is in full force with a number of rules applying to kiosks.

Signed into law by President Bush on July 26, 1990, ADA is undeniably the most comprehensive formulation of disability rights in the history of the United States or of any other nation. More than 50 million Americans have

some kind of physical, sensory, cognitive or mental disability.

The Americans with Disabilities Act prohibits discrimination on the basis of disability in the areas of employment, public services provided by state and local governments, public services operated by private entities, transportation and telecommunications.

ADA laws ensure that kiosk owners will provide equal access for persons with disabilities. In a self-service kiosk application, this not only applies to accessibility to the kiosk but also to the touchscreen and other peripherals, such as a keyboard, bill acceptor, printer and so forth.

ADA law states there must be clear accessibility to the kiosk. The law requires at least 34 inches of clear space directly in front of the kiosk for persons in wheelchairs. If there is a requirement for access from the side, then there must be 34 inches of clear side access as well.

The law also provides ranges of maximum and minimum height for components with unobstructed and obstructed forward reach and unobstructed and obstructed side reach. Unobstructed reach can be defined as a kiosk system that has no large protruding extension that would prevent or hinder a person interacting with the component. Obstructed reach is defined as a kiosk system that would

Appendix: Additional stories from Self-Service World

contain a large shelf/counter and/or have a recessed monitor that would limit access to the component by the user.

Placement of components will also determine maximum height. A shelf should range from 28 to 32 inches from the floor. This should serve as a good benchmark for input components such as a keyboard, credit card reader and pin pad.

Additionally, individual components or functions may require guidance outside of simple access to the kiosk and its components. For example, if the kiosk has a telephone handset, then ADA specifies the type of handset and functional requirements needed. Likewise, if the application has audio, then ADA defines how to address individuals with a hearing impairment. Lastly, signage elements for components and directions placed on the kiosk will require raised characters and other provisions listed in ADA.

I have yet to see a project exempt from ADA regulations, so I am very confident ADA applies to any kiosk project. The process of understanding ADA can be complicated, so it is important you conduct proper research to determine if your kiosk meets ADA law.

I encourage companies to use the “if – then” process for every component and function. Build a matrix to ensure compliance. The matrix should be something like this: If a touchscreen, then the maximum height of the monitor should not exceed 48 inches. If a touchscreen, then these [specify type(s)] of touch technologies comply with ADA.

The process of understanding ADA can be overwhelming, but with proper research and planning, complying with ADA law can be accomplished.

Appendix: Additional stories from Self-Service World

This article was first published on March 25, 2008, in Self-Service World.

Personas help retailers connect with shoppers

By James Bickers

Nicole is a 34-year-old woman who recently got engaged. She has settled in Atlanta, where she works as a physical therapist. She's pretty tight with her girlfriends, but all that is changing now that she's so busy planning her wedding. She makes \$58,000 a year.

Lisa is 38, married and has one child. She's a stay-at-home mom but sells Avon to make a little extra money on the side. Lisa isn't into technology — she uses computers and related gadgets only to do what needs doing and usually has to ask for help when it comes time to make a purchase. She and her husband bring in a combined \$55,000 a year.

One thing they have in common: Neither is real. Both are personas, created on behalf of retailers and used to help those retailers plan products, marketing and customer-experience strategies. Personas are powerful tools for “getting employees to understand and obsess about customer needs,” writes Forrester analyst Moira Dorsey.

Profiles vs. personas

Retailers long have used customer profiles as a way to focus on customer needs and plan marketing and product selection accordingly. Profiling breaks the retail audience down into basic demographic groups, such as 18- to 24-year-olds, soccer moms, middle-aged dads, white-collar workers and the like.

Personas take that segmentation a step further by creating a fictional individual, complete with a fleshed-out back story.

“The terms ‘customer profile’ and ‘customer persona’ are often confused and even grouped as one and the same,” said Michael Brown, customer service consultant and author of “Fresh Customer Service.” “Though they feed off of each other, there is a distinct difference.”

Profiles treat each customer within similar demographic groups as equals. For instance, an 18- to 24-year-old male customer in one department store is effectively the same as any other 18- to 24-year-old male shopping at any other department store.

“With customer personas, each and every 18- to 24-year-old male customer who might visit your particular department store will approach the buying process in a different way and have different problems he needs to solve,” Brown said. “Understanding

Appendix: Additional stories from Self-Service World

customer personas is how you develop and deliver a more relevant and unique shopping experience that will help beat your competition, and gain repeat and loyal customers for life.”

In her report “Best and Worst of Personas, 2007,” Forrester’s Dorsey isolated three requirements for effective customer personas:

1. They must be based on ethnographic research. Interviews with, and observation of, real shoppers can reveal goals, attitudes and behaviors that focus groups and surveys cannot. Dozens of interviews might be conducted to gather the information needed to create a single persona.
2. They must be developed into archetypes that represent key behaviors. These archetypes become avatars for customers. Putting a real face and name to these fictional characters makes it possible for decision-makers and experience planners to get inside the mind of the shopper more completely.
3. Once built, personas must be used consistently. Workers at every step of the design process should be reminded who exactly they are designing the experience for. Personas also should be shared with any employee who interacts with customers, in order to foster a deeper sense of empathy. According to Dorsey, most personas are developed by creative agencies or

Web design firms. Costs vary but can run as high as \$50,000 for a single persona.

Building the perfect persona

So what do you get for that money? When a persona is done right, you get what appears to be a few pages of text and photos but actually is a powerful design and customer-service tool.

Take Lisa Parks, the 38-year-old technophobe mom. She was developed for Dell by Canadian creative agency Critical Mass, which also developed the Dell Web site. Lisa is a fully fleshed-out individual, complete with photos of her, her child and her home. Attributes and behaviors are broken out and ranked, and a complete back story was written for her. Notice the level of detail in her biography:

Personas Are:

- ⇒ models that represent key behaviors, attributes and goals.
- ⇒ presented as a vivid narrative description of a single “person” who represents a behavioral segment
- ⇒ based on primary research (e.g., interviews, observations)
- ⇒ used to guide business decisions

(Source: Forrester Research, “How Personas Drive Experience-Based Differentiation”)

Appendix: Additional stories from Self-Service World

Lisa's been using the Internet for about three years, and she goes online daily to keep herself occupied. It started as a distraction when her son Zach was napping but has grown into an important part of her everyday routine. In fact, she converted the family office into a joint playroom, so she can keep an eye on Zach while surfing the Web, looking up current events or health-related information for her family and sometimes shopping for products she can't find at local stores.

It's not just details that are captured but personality as well. In the case of Nicole, who was designed several years ago by Chicago-based WHITTMANHART for a beverage company, the persona is written in the first-person, to better enable that personality to come across:

I'm always looking for something new. That's why I'm always online, I mean ALWAYS. Looking for the next cool thing, especially something a little "girly" for me and my girlfriends to try out.

Today Nicole may be checking out the latest on Britney's turmoil. In any event, Nicole's persona goes even further into the aspects that make her a unique individual and includes a list of goals she has for her life, things that annoy her, a personal history and a schedule from a sample day in her life.

Dorsey said a good persona always

will sound like a real person and will be built upon a compelling story. Personas should single out the key attributes and goals of the person — and ultimately, they must be useful in making design decisions.

"Personas play the role of the end user during the design process, so they should help design teams understand what users need and want," she said.

SEGMENTING YOUR AUDIENCE

Personas are truly useful only if they cover a reasonable gamut of typical shoppers.

Cheskin Added Value, a market research firm whose clients have included Wal-Mart and The Gap, offers these tips for making sure you have thoroughly and properly segmented the audience:

- 1 Identify what's different about consumers through qualitative research. Use ethnography to get at deeper values and the meaningful experiences that people seek.
- 2 Develop potential segmentation axes and consumer profiles. If a good segmentation sounds intuitively right based on real people, then it is more likely to be verifiable and actionable.
- 3 Conduct quantitative segmentation to refine the qualitative segmentation as well as to size and prioritize the segments based on collaboratively developed metrics (e.g., revenue potential, profit potential, etc.).

Appendix: Additional stories from Self-Service World

Putting personas to work

Once a retailer has developed and settled on its personas, the real work begins. Personas have two key points of implementation: experience design and customer service.

Dorsey said personas create a shared understanding of customer goals, attitudes and behaviors. Besides reducing debate at the design stage, they also make it possible to prioritize the many possible options that can be worked into the customer experience, allowing the design team to focus on the best choices to implement first.

An even bigger benefit may come in the form of improved customer service. Personas, when communicated throughout the company, can get front-line employees thinking about individual customer needs and the stories behind them.

“All humans are, genetically, 99.5 percent identical,” said Steve Yastrow, author of “We: The Ideal Customer Relationship.” “So, if you look for and track the interesting features of each customer’s last half-percent, the things that make her unlike other people, you will be better able to have a rich, powerful, relationship-building encounter with that customer the next time she is in your store.”

As an example, take an electronics store employee, one who has solid knowledge of computer networking. His day-to-day attitude about wireless routers probably focuses on the technical aspects — what it can do, which iterations of 802.11 it supports, how secure it is. But if he is introduced to the story of Lisa Parks, he begins to see that router not just as a product but as a means for her to be online in the room where Zach is napping.

It’s a fundamental change in attitude, a shift from “What can we sell you?” to “What needs do you have that we can help you meet?”

“Their proper use can be the difference between treating a customer like a number, and showing that customer you understand her as a person,” Yastrow said.