

# PERVASIVE RETAILING JOURNAL

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## EXPANDING THE VISION OF CONTACTLESS PAYMENTS

By Fred Miller

Banks are rolling out new RFID-based "contactless" technology in a big way.

The move to contactless payments is described as one of the fastest technology changes in the payments business in decades. Issuing banks such as Chase, Bank of America, Key Bank and Citibank proudly extol the progress made in just one year: approximately 30,000 merchant locations are now poised to accept payments from the 10 million contactless cards issued in the past year.

For credit card companies, contactless technology opens direct access to cash transactions. As these companies scramble to convert more of the \$8.2 trillion in personal consumption expenditures (ACNielsen Report, Dec. 2005) to interchange, including \$1 trillion in purchases under \$15, retailers need to recognize that the best uses of RFID – at the front of the store - can be under the retailer's control.

The rollout plans for contactless technology by the credit card companies are massive, yet

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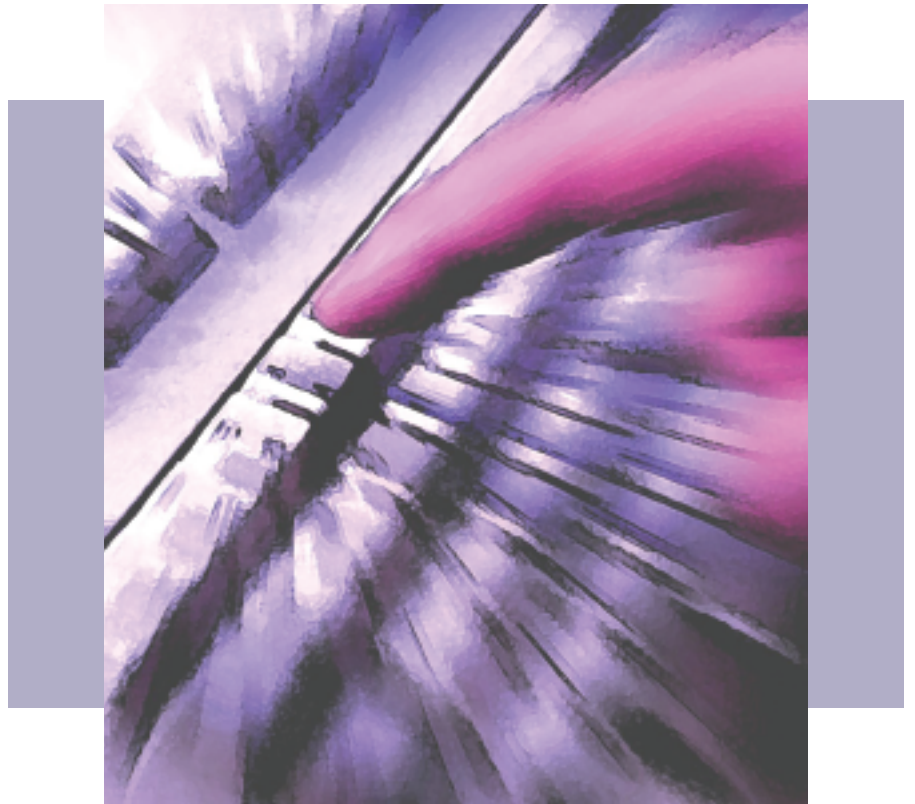
CELL PHONE MARKET:  
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## USABILITY: THE KEY TO A SUCCESSFUL PERVASIVE RETAILING STRATEGY

By Scott Langdoc

Retailers have begun to realize that the key to transforming the relationship between the consumer and the store lies not just in improving traditional point-of-sale capabilities, but in establishing a true "front door to front end" level of interaction with shoppers. Merchants certainly aren't without new technology platforms to choose from, with a growing list of self-service, assisted selling, self-ordering and mobile solutions available to address different shopping stages and different parts of the store.

As retailers seek a true "one-to-one" relationship that can drive bigger market baskets and lifetime value of the customer, there remains a delicate balance in the implicit contract with consumers between

effective influence and frustrating intrusion. The objective for both consumers and retailers is not just better store-centric technology, but a better utilization of that technology, resulting in a system and user experience the customer understands intuitively, while realizing incremental value.

### LESSONS FROM THE WORLD OF IPOD AND BLACKBERRY

It is hard to argue against the transformational effect that Apple and Research in Motion have had on the world of music and e-mail, respectively. But why have tens of millions of people worldwide embraced each company's flagship product? What's the common product development principle

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# PERVASIVE RETAILING TRENDS

## REAL-TIME INFORMATION KEY TO NEXT GENERATION POINT-OF-SERVICE

Once considered irrelevant to day-to-day operations, real-time retailing has become a necessity. In the real-time retailing world, the point-of-sale (POS) check-out solution is only one part of the total retail point-of-service solution framework. The next generation of point-of-service technology must make use of applications and functions that previously lived solely in the domain of check-out. A Service-Oriented Architecture (SOA) is necessary to optimize re-use of program components and keep cost of ownership under control.

SOURCE: ABERDEEN GROUP –  
APRIL 20, 2006 PRESS RELEASE  
ABERDEEN.COM

## CONTACTLESS PAYMENT: CARDS TODAY, PHONES TOMORROW

“Contactless commerce is on a steep growth curve, but cards are only an intermediate step. By 2010, more than 50% of cellular handsets – some 500 million units – will incorporate Near Field Communications (NFC) capabilities that will be used not only for payments at points of sale and remotely, but also to access information from ‘smart objects.’”

*Erik Michielsen, director of  
ABI Research's RFID and  
M2M practice.*

SOURCE: ABI RESEARCH – MAY 23,  
2006 PRESS RELEASE  
ABI RESEARCH.COM

# CELL PHONE MARKET: 213 MILLION BILLBOARDS AVAILABLE FOR RETAILERS

By Peter Wolf

Today, more than 213 million U.S. consumers have a cell phone. This represents more than 69 percent of U.S. households, according to the Cellular Telecommunications and Internet Association (CTIA). Worldwide, the number is more than 2 billion, and each one of these phones has the potential to be your billboard to the consumer. Are you ready to capitalize on this tremendous opportunity?

Marketing through cell phones – “mobile marketing” – consists of a unique and complex mix of technologies, business skills and marketing expertise. It is critical that today's retailers acknowledge and act upon its potential to profoundly change how they communicate with their customers.

Why is mobile marketing unique and so important? There are a number of characteristics:

- **Personal** – the cell phone is a very personal device, as unique as the person speaking on it. Just look at the number of ring tones, faceplates, colors, adornment trinkets and carrying cases. People take the devices and make them their own.
- **Unique** – second only to one's social security number, the cell phone number is a reliable way to identify each consumer. For example, in the last three years I have lived in three different states. My address has changed, my home phone number has changed, my driver's license and my physical cell phone handset have changed, but my cell phone number remains the same.
- **Immediate** – consumers have their cell phones on almost all the time, which enables right-time, right-place, right-content dialogs. And because consumers are in control of their messaging preferences, these communications are not intrusive.
- **Consumer Specific** – with integration into consumer relationship marketing (CRM) databases, analytical solutions messaging can be data driven and highly relevant to the individual.
- **Market Leading** – it is not a question of “if,” but “when” mobile marketing is going to become the preferred channel for consumer marketing. According to a recent independent survey of 50 brand-name companies, by 2008, 89 percent will use text and multimedia messaging to reach their audience. Innovative and creative retailers will benefit from the newness of the medium, with higher response rates compared to traditional channels.
- **Measurable** – through the combination of the technology, the uniqueness of the cell phone number

and the integration with store systems, the cause and effect of mobile marketing campaigns can be determined with great clarity. In a recent retailer mobile marketing campaign, a 533 percent increase in transactions during a three-hour period can be linked directly to the text messages delivered, read by the consumer and acted upon.

The objectives of mobile marketing campaigns for retailers are straightforward: increase average transactions, drive frequency of visits and improve customer service. Two things are very important to understand: First, mobile marketing does not stand alone; rather, it leverages traditional promotional channels, such as print, email, Web, radio and television. Second, the intimacy of the mobile channel demands that all practitioners adhere to the best practice guidelines of Choice, Control, Customization, Consideration, Constraint and Confidentiality.

To illustrate the power of mobile marketing, consider the following example. An upscale grocery store in the northeast recently hosted a vendor-sponsored tasting event in its wine department. The event was scheduled on a Thursday at 7 p.m. The Monday before the event, the retailer and partners sent email communications to their customers who had opted-in to receive notification of events in the wine department. On Thursday at 2 p.m., they sent a text message reminder to the more than 1000 customers who had opted-in. The message simply reminded the consumer of the event and that all products from this vendor would be 20 percent off that evening only. The results: a 133 percent increase in transactions over similar past events.

This is just one example of how mobile marketing will change the retail landscape. How will you reach those 213 million billboards?

*Editor's note: Peter Wolf is vice president of marketing for Fujitsu Transaction Solutions Inc.*



# SELF-SERVICE: FROM CULTURAL EVOLUTION TO RETAILING REVOLUTION

By Austen Mulinder

In 1929, New York City skyscrapers experimented with the idea of letting passengers push their own elevator buttons. Two decades later, gas stations started to offer a few cents off per gallon if you pumped the gas yourself.

In the 1950s, telephone companies followed suit by allowing direct dial phone numbers – eliminating the need for an operator to connect the call. And in the 1970s, banks began connecting more conveniently with their customers, not only during banking hours, but 24 hours a day, by offering a breakthrough self-service concept – the automated teller machine (ATM).

From skyscrapers to gas stations, from phone booths to financial institutions, the concept of self-service is certainly nothing new to consumers, nor to the businesses that serve them. But historical precedents notwithstanding, never has self-service been as pervasive – or as powerful – a trend in consumer buying behavior as it is today.

## THE RETAILING RE-REVOLUTION

Flash back for a moment to a date a few months ago; more precisely, to Sunday, March 5. It is Oscar® night, and on the West Coast, dozens of the world's most famous celebrities are making their way down the red carpet in preparation for the 78th annual Academy Awards®.

On the East Coast, in New York City, a star of a different kind is making its debut. The J.C. Penney Experience Store is being unveiled on the first three floors of the J.C. Penney's store at 1 Times Square.

The J.C. Penney Experience is a self-service concept store where customers can only purchase

materials via a kiosk. With 22 kiosks on the premises of the Times Square store, its major focus was to promote online shopping through the J.C. Penney's Web site. Several sales associates were on hand to help shoppers if they needed it, but all purchases were clearly self-service transactions.

Just as clearly, J.C. Penney is not alone in its quest to explore new self-service possibilities. And there are several reasons why.



According to a study by BCC Research, one of the world's leading producers of in-depth market research reports, the market for self-service machines – including ATMs, kiosks, and vending machines – was approximately \$11.3 billion in 2005. This market will surpass the \$24 billion mark by 2010, growing at an average annual rate of 17 percent per year.

The potential impact and opportunities for retailers are nothing short of staggering. Consider just

a few of the ACNielsen company's predictions for retailing in 2010. At its recent Consumer 360 Conference, AC Nielsen said the volatile changes – and challenges – retailers are confronting today are, to put it succinctly, here to stay.

As ACNielsen points out, consumers used to view shopping as a leisurely activity, a pleasant pastime to be enjoyed and savored. But with the added pressures all of us must deal with today, shopping, like many other responsibilities, is increasingly stressful.

As a result, retailers are looking for ways to keep customers happy and, of course, coming back. Quick turnaround time and great service are two of the ways to help achieve both of these goals.

*"Self-service," continued page 4*

## PERVASIVE RETAILING TRENDS

### IT CONVERGENCE: A TOP BUSINESS TREND IN 2006

Both enterprise and consumer technologies are witnessing significant convergence of devices, functions, communications, and other capabilities. Wi-Fi merging with broadband; local networks with routers; and phone, camera, and PDA functions meld into smart phones. This trend will continue with a new generation of edge devices running on networks focused on application throughput, quality of service management and flow control.

SOURCE: ALWAYS ON NETWORK – "BUSINESS TRENDS: A VC'S PERSPECTIVE," 1/10/06  
ALWAYS ON NETWORK.COM

### COMMUNITY AND COLLABORATION: MAJOR IT TRENDS OVER THE NEXT 10 YEARS

Gartner predicts that by 2010, 70 percent of the population in developed nations will spend 10 times longer per day interacting with people in the electronic world than the physical one. New communities operating on the free-sharing of information are emerging, and such network marketing – feeding information on products and services back to prospective purchasers – has been the basis of the move from transactions towards participation and interaction.

SOURCE: GARTNER – MARCH 8, 2006 PRESS RELEASE  
GARTNER.COM

## CHECKING OUT THE POSSIBILITIES

To satisfy speed and service concerns alike, retailers are rapidly turning to self-checkout solutions. By 2010, according to ACNielsen, new technology, particularly the prevalence of RFID, will have led to the creation of simpler contactless payment devices that will fuel the demand for self-checkout even more. So much, in fact, that what is still somewhat of a novel concept today will be the norm in just a few years ahead.

When it comes to paying for goods and services, consumers are already coming to the conclusion that self-service is good service.

According to a recent IHL Consulting Group study, consumers are predicted to spend \$475 billion through self-service systems in 2006. With a 47 percent increase in self-service transactions over the previous year, millions of consumers are opting for the convenience of self-service to pump gas, order movie tickets, pay for parking, buy groceries, print photos, renew vehicle registration or print an airline boarding pass.

And this is just the tip of the iceberg. The IHL Consulting study forecasts that the demand for self-service transactions will skyrocket in the years ahead, increasing to more than \$1.2 trillion by 2009, with self-checkout representing more than \$400 million of the total.

Why are consumers willing to make such a radical shift in behavior in such a short period of time?

According to one of the world's leading research firms in the retail sector, Framingham, MA-based IDC, multiple drivers are behind consumers' increasing acceptance of self-service. These drivers can be divided into six broad categories. With self-service options, consumers benefit from:

- Shorter checkout lines
- Faster throughput compared to traditionally manned transactions

- Greater control over the purchase process
- Improved customer service
- More choices over the traditional purchase process
- Greater privacy.

According to IDC's Christopher Boone in the research company's 2003 *Self-Checkout Retailer and Consumer Survey*, “the number-one source of consumer dissatisfaction is the amount of time spent waiting in line.”

With self-service options, waiting lines tend to be visibly shorter, and consumers often perceive service to be faster than it actually is, simply because they are proactively directing the transaction process themselves. From the consumer's and the retailer's perspective alike, everybody wins with self-service.

## SERVING THE MULTI-CHANNEL CONSUMER

New technology is the engine that continues to drive the advancement of self-service shopping, not only because it allows retailers to differentiate their offerings, but also because it increasingly pervades the lives – and buying behavior – of a new generation of shoppers.

With the birth of the Internet, wireless technology, mobile computing and other breakthroughs that were novel or unheard of a decade ago, consumers now have multi-channel shopping options at their immediate disposal. In some instances, it is far easier to use one of several self-service options than it is to fall back on a more time-consuming, associate-assisted transaction.

Consequently, shoppers considered to be “technically savvy” today will comprise the

norm in the very near future. For example, results from a Forrester Research Technographic study of U.S. online consumers in 2005 show that a consumer who is already a Web buyer is 78 percent more likely than a non-Web buyer to use an in-store kiosk.

Such findings support the idea that multi-channel consumers will be prone to use more in-store technologies, not only today but increasingly so in the future. Self-service technologies that offer more control, choice and consistency for consumers – such as in-store kiosks, personal shopping devices and self-checkout – are on the fast track to becoming more popular and pervasive in retail settings.

## EVERYTHING NEW IS OLD AGAIN

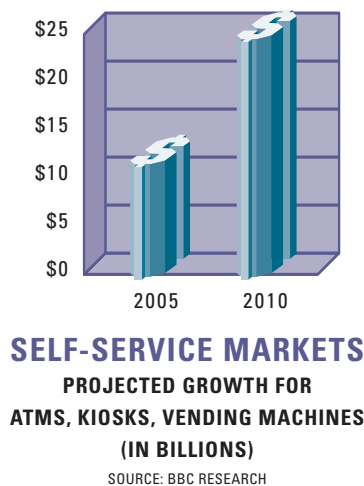
Self-service may be revolutionizing the way retailers sell to their customers, but it is certainly not a revolution in and of itself. In fact, it has been with us in one form or another ever since human beings have been transacting business together.

As a stand-alone business concept, self-service gained market momentum in tandem with the cultural migration that began with the industrial revolution and has remained a constant through the electronic and technology revolutions as well.

And as technology improves and continues to empower business performance and profits alike, more and more self-service solutions will invade the marketplace. It all boils down to the ability of self-service to satisfy the business needs of its providers and the personal preferences of its users.

Cell phones. The Internet. Self-service kiosks. Mobile computers. Wireless devices. And more. The list of self-service technology solutions continues to grow, as will the profits, productivity and customer loyalty of retailers who take full advantage of how self-service can revolutionize the retailing model.

*Editor's note: Austen Mulinder is president and CEO of Fujitsu Transaction Solutions Inc.*



retailers and their customers alike are left with only a passive role as usage builds toward a critical mass. Retailers are told to buy new attachments to their payment terminals and wait for customers. Customers are sent RFID-enabled cards in the mail and told to wait while merchants in their area gear up.

But what if retailers had active control? What would change if retailers could drive the beneficial uses of RFID in transactions and better serve their customers?

When retailers implement RF-based identification for customers – securely, voluntarily and actively throughout the store – the technology can deliver vast new benefits.

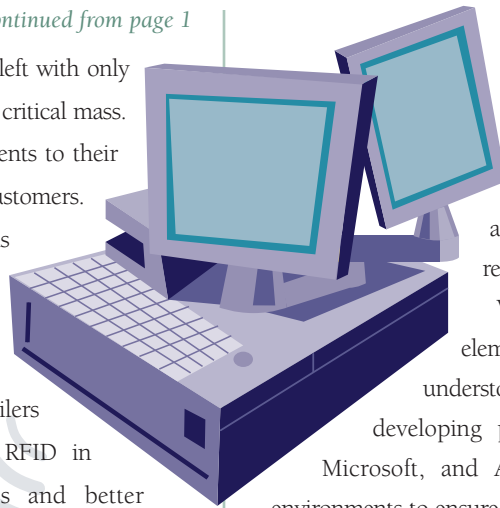
Want speedy checkout at a quick-serve restaurant? Now add the retailers’ brand, prepaid and e-check transactions, and applications like loyalty rewards and self-ordering kiosks.

Link RFID to loyalty programs, and customers can quickly “check in,” securely manage their profile and build a one-to-one relationship with their retailer. Add pervasive retailing tools like smart carts, self-checkout, mobile marketing, Web ordering, etc., and a whole new store experience is created through the use of RFID for customers.

The security and privacy protection offered through voluntary RFID offers a safe platform for customers to allow retailers to serve them better. With trust and security, retailers can invite their customers to enjoy 21st century concierge service, offer incentives for using economical transaction methods (e.g., ACH and prepaid), personalize the relationship and know their customers better.

In a pervasive retailing environment with retailer-branded RFID-based services, merchants have an unprecedented opportunity to deploy the benefits of technology to gain greater control of transactions and improve their relationship with customers.

*Editor’s note: Fred Miller is director of business development for Accelitec, Inc., a Bellingham, Washington-based provider of chip-based contactless payment systems.*



that drove both companies’ initial success, as well as their continued leadership and ongoing market dominance? All roads lead to the user experience – a core design priority that helps to combine complex technology with a kind of “elegant simplicity” that is easily adopted by users regardless of age or technical capability.

When coupled with a rock-solid level of reliability, the elements that led to such market success become easily understood. Other companies have had similar success when developing products from a user interface point-of-view. Intuit, Microsoft, and Amazon collectively spend millions on usability lab environments to ensure their latest product versions appeal not only to the broadest user base possible, but also will be quickly adopted for regular use.

### KEY PRIORITIES IN RETAIL APPLICATION USABILITY

As retailers look to broaden the use of technology within the store, a number of important strategic considerations surface, including:

- **Elegant Design.** The look and feel of the interface on solutions drive the interest level and behavior of potential users. Enticing attraction loops, creative yet focused graphic and media elements, and complementary color and font usage all help capture the interest and attention of potential users.
- **Adaptive Workflow.** One of the most critical requirements for any leading self-service application is the ability to automatically adjust to different inputs from different users at different levels, all without skipping a beat from the perspective of the application interaction.
- **Associate-Driven Applications.** Much of the industry’s attention has been focused on making systems easier to use for the shopping public. But more mobile and interactive technology is being placed in the hands of store associates for purposes of guided selling or other customer service activities. The design objectives of these applications should focus on the combination of deep content management and efficient customer service – all without requiring significant associate training. The best designed associate applications will often serve as an interactive educational tool, allowing the employee to become more knowledgeable about products and processes with each application interaction.
- **Transparent Configuration and System Management.** Properly configuring a system for usage and ensuring its universal availability is paramount, no matter how easy a self-service or self-ordering application is. Proactive system management capabilities enable inoperable systems to be quickly identified and serviced, either remotely or via a dispatched technician, all with minimal downtime.

Retailers will begin to see the opportunities that result from creating the next-generation consumer experience when they combine deeper investments in pervasive solutions with accelerating levels of consumer and associate adoption and usage. It’s critical for retailers to align with technology partners that share this vision of user-centric application design. Strong partnerships can help drive higher levels of business benefits that will ensure, not only competitive differentiation, but outright survival.

*Editor’s note: Scott Langdoc is chief technology officer for Fujitsu Transaction Solutions Inc.*



## SPOTLIGHT: QUICK-SERVICE RESTAURANTS SELF-ORDERING TECHNOLOGY RIPE FOR QSR MARKET

After years of development and testing, self-service technology appears primed for an explosion across the quick-service restaurant (QSR) industry.

Introduced to the market more than 10 years ago, the self-ordering concept was ahead of its time. It was largely disregarded by restaurateurs for the lack of sufficient payment technology; little or no integration into the existing in-store POS system; and a low consumer acceptance of self-service devices in general.

Since then, the technology has evolved through implementations in industries where market conditions were more favorable. From automated teller machines (ATMs) at banks, to self-checkout units in grocery chains, to check-in kiosks at airports, self-service systems are now the norm in today's society and are highly accepted among consumers.

Self-ordering systems are now more reliable and intuitive, and offer user-friendly interfaces that quickly guide consumers through the ordering process. Companies can easily integrate loyalty programs and even profit from the units by developing and displaying on-screen ads.

Considering the QSR industry's high value on speed of service, coupled with bolstered kiosk functionality and the widespread adoption of electronic payment technologies, self-ordering systems have become a more viable option for QSRs.

A Venture Development Corporation study says North American shipments of self-service and interactive kiosk systems will achieve a compound annual growth rate of 20 percent from 2004 through 2007. Within the segment, self-service ordering ranked highest in the study, based on scoring criteria that included fast return on investment

(ROD); high market growth rates; and high consumer adoption rates.

Self-ordering solutions let consumers experience a speedy, accurate transaction, as the restaurateur simultaneously monitors real-time transaction data and redeploys labor to increase productivity and service.

Many industry leaders have already begun evaluating and testing self-service systems, and rollouts are expected to increase steadily within the next year.

The technology is here, the consumers are ready, and QSRs are stepping up to the plate.



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