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The Connected Store

Fun, Rewarding Experiences Using Mobile Codes Enabling Consumers to See, Scan, and Save...
and Retailers to Benefit From Rich, Real-Time, Secure Behavioral Data

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THE CONNECTED STORE – INTRODUCTION



Retailers today are faced with extraordinary challenges as more and more consumers are turning to smart phone comparison shopping applications from massive e-commerce and m-commerce powerhouses like Google, Amazon, eBay and others.

How can retailers use mobile scanning and related applications to attract new customers, keep their existing customers, and build larger repetitive sales – while fending off this growing competitive threat?

They must innovate! Great retailers have always innovated, and the most successful have done so with a deep understanding of their customer's physical, emotional and financial needs and triggers. Great retailers have built outstanding in-store experiences, with beautiful displays, events, personal service, deals and loyalty programs to name a few. Underneath it all, the best are gathering rich data in closed loop systems that help make them even BETTER at the retail game.

Retailers can use their assets – and that is the unbeatable experience some customers love – touching and feeling the merchandise, enjoying window shopping and browsing, bringing friends along, and making shopping not drudgery – but entertainment! For example, look at how our grocery stores have evolved into beautifully lit places that are more like fine restaurants than aisles of packaged goods and uninspired produce displays. Look at the growth of large consumer electronics stores, where enthusiastic gadget guys and gals love nothing more than to talk technology. Look at the iconic Apple stores, where Genius Bars have replaced check-out counters, and where everybody from little kids to seniors come in for classes and enjoy not just learning but camaraderie.

These retailers are also leading the movement toward the connection of the “real world” to the “digital world” using mobile applications – not just scanners – but scanners embedded in

helpful applications that enable consumers to organize their life and enjoy shopping in-store and anywhere. Why? Because they “love the brand” and don't mind at all carrying it around in their pockets.

Nielsen Research projects that fifty percent of the US population will own a smartphone by the end of 2011, with two thirds of them researching products and prices online while in stores. Innovative retailers are racing to create compelling in-store shopping experiences to establish and maintain customer loyalty.

As the world moves toward the inevitable “conversion” of scanning to learn things and get deals, to actually buying things securely – even more innovation will occur and more sophistication will connect the data flows with sensitive, secure apps that enable a conversation between the mobile device and the Point-Of-Sale systems in stores. In other words – like the DVD? Scan it, buy it, show your receipt at the door. Consumer saves time, retailer saves money, purchase is credited to the store manager and her “P&L” and richer and richer data is collected and used to create even BETTER experiences and MORE PROFIT.

The breakout phenomenon of comparison shopping indeed has helped dramatically accelerate the proliferation of many readers and mobile codes with a variety of different implementations. But we are just at the beginning of this, and like many initial accelerators, comparison shopping is already becoming commoditized, which means retailers can now say – “Sure we do that – but we do a whole lot more to keep our customers happy in store, at home and anywhere they happen to be with their mobile device.”

In this white paper, we will provide a brief primer on the history and present state of mobile codes within the retail world, then share some notable innovations.

I. Why Retailers Should Consider Developing Mobile Barcode Strategies and Tactics

The mobile phone presents a unique opportunity for retailers who wish to create a conversation with their customers. Retailers have been embracing this opportunity as an interactive and relevant way to provide personalized marketing based on the customer's location, the time of day and previous interactions.

Retailers should incorporate mobile barcodes to complement traditional marketing efforts. The codes could link consumers to product demos, videos, the brand's Facebook or Twitter page, and some are linking directly to mobile commerce sites.

There's been an explosive growth in the use of mobile barcodes. One of the main reasons is that smartphone and mobile application adoption is growing quickly. Additionally, carriers are doing their part to create awareness. For example, Sprint is preloading a mobile barcode reader application and Verizon is using mobile barcodes in their marketing efforts.

AT&T is investing millions in their mobile barcode platform, and Microsoft has been giving away its TAG solution as part of its 2010 beta program (which will become a revenue stream for them in 2011).

With all of this market support, major brands are now incorporating mobile barcodes into cross-channel marketing programs. Retailers need to take advantage of the ability that mobile barcodes provide to bring engagement and interactivity to marketing and advertising campaigns and ultimately drive sales, leveraging their brand partner's campaigns and developing their own.

Mobile barcodes are a necessary element for retailers to integrate into their cross-media initiatives whether out of home, online, television or print. For example, by embedding a mobile barcode on a billboard, retailers are able to activate the advertisement and engage the consumer on the go.

Once they have established the dialogue with the consumer, whether around product information, sales or coupons, they can then continue to correspond, based on consumer opt-in, and continue to communicate their brand message.

Analytics based on the consumer scan of the mobile barcode including time of day and location help retailers make better purchase decisions around their advertising and ensure optimal utilization and communication of message.

II. Mobile Barcode Basics

The mobile phone presents a unique opportunity for retailers who wish to create a conversation with their customers. Retailers have been embracing this opportunity as an interactive and relevant way to provide personalized marketing based on the customer's location, the time of day and previous interactions.



Mobile barcodes are symbols (as shown on the left), that when scanned by your customers' mobile devices, provide customers an opportunity to discover more about you as a retailer, your products, and your brand. They allow you to inform, entertain, engage, and interact with your customer in a way that has never before been possible. A mobile barcode can be a gateway to music, video, advertisement, product information, the start of a phone call, and even addressing and populating an email or a text message.

There are many choices of mobile barcode formats and vendors. Some formats are open and free, others are proprietary, and all have different developers and capabilities. Many mobile barcodes mean many options and greater inconsistencies – whereby some codes will work better for some customers, but not so well for others. Customers will need to have a phone that can read the barcode and connect to the Internet. Not every code developer has reader software that works across all mobile phones.

This is where Neustar's role proves ultimately valuable. Neustar simplifies and enhances the adoption of mobile barcodes, minimizes the integration efforts and maximizes the opportunity that mobile barcodes provide. Neustar ensures that all of the codes that a retailer uses will be resolved to the destination a retailer specifies. Neustar does not develop mobile barcode scanners or symbologies, and thus does not compete with service providers in the space. Instead, Neustar's business model is one of open collaboration and value-added empowerment for organizations with corresponding efforts therein.

Consumer Barcode Scan Engines and Their Impact on Retailers: The Challenges of Market Fragmentation and Potential for Disintermediation

Customers are adopting scanning applications while shopping at retail locations. These applications can provide comparison shopping, retailer-specific functions such as barcode scanning, or provide a generic or general barcode reading capability.

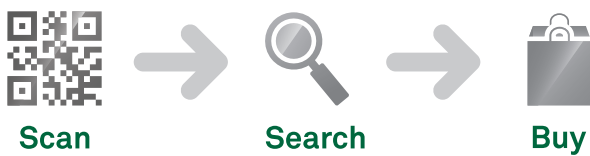
Comparison shopping applications, such as eBay's Red Laser, lookup UPC codes in a database. Usually such applications show the competitive prices, stores and the distance from the customer to the retailer's competition. Some allow for online ordering.

The downside to these applications is that not all standard retail UPC codes may be listed in the application's native database. A mobile app may decipher the barcode, and may look up the product information, only to find that the linked data was never made available by the manufacturer or isn't otherwise readily available to the barcode reader. In a few cases, the generic barcode reader applications don't even support the UPC or EAN

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formats. Those can't decipher the information in those barcodes and the consumer is left with no additional information to support his or her buying decision. In contrast, some mobile apps are specified for UPC and EAN barcodes and used for the purpose of comparison shopping, especially when consumers are browsing retailer aisles.

Comparison shopping applications are extremely popular, at least one of which has held the position of top ranked paid Utility application in the iTunes App Store and arisen to the top 25 rank across all free and paid apps. Others have risen to the No. 4 and No. 5 spots among free iPhone Utility applications. These have managed stints the top 75 overall. Together, these represent millions of scanning applications in the marketplace.



Retailer provided scanning applications like Sephora and Best Buy's iPhone applications work similarly to the comparison shopping application, but the inherent objective differs.

These applications showcase the sponsoring retailer's products. When a UPC code is scanned, the retailer has the option of connecting directly to the brand information or they can provide their own version of the content, all as part of a campaign to increase their own basket spend and uplift. If a customer uses a store-provided scanning application and scans a competitor's private UPC code while in a competitive store, there is a chance that the UPC code would not resolve.

Generic mobile barcode readers such as those supplied by Microsoft Tag, ScanBuy, NeoReader, Clic2C, or i-nigma possess features focused on decoding barcodes and triggering appropriate responses, such as opening a browser that directs the end user to a desired mobile website or displaying a telephone number and prompting the user to place a call. These same companies also provide code management platforms to enterprise customers that allow barcodes to be created and programmed accordingly. There are options that can also restrict access to the barcode. In the case of Microsoft TAG, for example, only the Microsoft TAG barcode reader can decipher its proprietary barcodes.

III. Challenges in Store: Retailer Beware

Mobile certainly provides retailers an unparalleled opportunity for engaging customers; however, existing fragmentation within the medium can present some very real challenges. Given the wide variety of scanning applications in the marketplace, perhaps the most significant concern for retailers is the potential disconnect between the barcode and associated content. Barcodes appear in many forms and for an increasing number of purposes within

the retail environment. Any barcode that is not either published by the retailer or discoverable through an application they provide to the end user, could result in customer experiences that conflict with the retailer's objectives. Barcodes found within a retail stores could lead a customer to the Retailer's site, but with dozens of scanner companies, a retailer would need multiple relationships to ensure that its own objectives are achieved. A better solution would be to have the retailer in authoritative control of customer experiences within their store.

For example, a customer using a retailer-supplied application scans a UPC code of a brand's merchandise from within a store. The scanner passes this information to the retailer's chosen system which gives the Customer any information or offers available for that particular item. The scanner software can make it possible for a customer to discover more about the product than what is listed on the box by providing definitions for ingredients or technical information, listing reviews by other customers, initializing a video on installation or how to use the product, or even opening a chat session to talk with a product specialist.

If there are any brand or retailer offers available for that product, they can be explained and made available as well. The offer can be transferred either to the customer's loyalty card, email address, or shared with the customer's friends through other social networking sites like Facebook, if desired by the retailer.

There are many combinations of "mobile shopping experiences" possible as the table shows:

Retailer Supplied Scanning Application

Customer Action	Possible Scanner Reaction
Scans mobile barcode published by Retailer	Retailer determines the source of the content
Scan mobile barcode published by Brand	Brand determines the source of the content, but the Retailer can have full knowledge of the transaction
Scan UPC code published by Brand	Retailer determines the source of the content
Scan UPC code not known by Retailer	Retailer can either deliver an error message, or pass the barcode to another Third Party to have the barcode resolved

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When retailers supply the scanner application, they maintain complete control of the content. If a customer uses a retail application to scan a UPC code or retailer mobile barcode within or outside the retailer’s store, the retailer has complete control over how the barcodes are resolved.

Brands may choose to provide their own mobile barcodes and make them available in signage or on the packaging. When scanned by a retailer supplied scanner, the scanner may provide the content as directed by the brand, and the retailer can have knowledge of the scan.

<p>Brand Loyalty Applications</p> <p>How It Makes Money</p> <ul style="list-style-type: none"> By allowing customer to make an on-line purchase of the item they scan. <p>Code Publishers</p> <ul style="list-style-type: none"> 1D Codes from Brands usually are in database 2D Codes require reader support, which requires relationship with App Publisher <p>Customer Experience</p> <ul style="list-style-type: none"> Controlled by Comparison Shopper Application Owner <p>Codes Not Found</p> <ul style="list-style-type: none"> If Retailer 1D code is not in the database, an ‘unable to process request’ may be given If Retailer 2D code is not supported, an ‘unable to process request’ may be given 	<p>Generic Applications</p> <p>How It Makes Money</p> <ul style="list-style-type: none"> Similar to browser/business model – free clients to customers, but sell servers to enterprises <p>Code Publishers</p> <ul style="list-style-type: none"> 1D Codes from Brands usually are in database 2D Codes require reader support, which requires relationship with App Publisher <p>Customer Experience</p> <ul style="list-style-type: none"> Controlled by Generic Application Owner <p>Codes Not Found</p> <ul style="list-style-type: none"> If Retailer 1D code is not in the database, an ‘unable to process request’ may be given If Retailer 2D code is not supported, an ‘unable to process request’ may be given
<p>Retailer Supplied Applications</p> <p>How It Makes Money</p> <ul style="list-style-type: none"> By selling advertising and positioning within application to Brands By Offering Value to Customer <p>Code Publishers</p> <ul style="list-style-type: none"> Brand 1D Codes under Retailer control Brand 2D Codes go to Brand (if retailer chooses) Retailer 1D & 2D codes all get resolved. <p>Customer Experience</p> <ul style="list-style-type: none"> Controlled by Retailer Supplemented by Brands <p>Codes Not Found</p> <ul style="list-style-type: none"> All Codes in Store can be resolved Other codes – scanned in other’s store – can be controlled by Retailer if desired 	<p>Comparison Shopper Applications</p> <p>How It Makes Money</p> <ul style="list-style-type: none"> By allowing customer to make an on-line purchase of the item they scan. <p>Code Publishers</p> <ul style="list-style-type: none"> 1D Codes from Brands usually are in database 2D Codes require reader support, which requires relationship with App Publisher <p>Customer Experience</p> <ul style="list-style-type: none"> Controlled by Comparison Shopper Application Owner <p>Codes Not Found</p> <ul style="list-style-type: none"> If Retailer 1D code is not in the database, an ‘unable to process request’ may be given If Retailer 2D code is not supported, an ‘unable to process request’ may be given

IV. Why Retailers Benefit from Neustar’s “Interoperable” Approach

With a generic scanner application, any code built or owned by a retailer or brand retrieves information supplied by that retailer. All mobile barcodes using standard formats are resolved. If Neustar supplies the mobile barcodes, then the retailer receives information from every scan of every code they own. For every code, the time, unique scanner identification number, code scanned, and sometimes the geo-location information can be provided.

Neustar offers mobile barcode routing services to competitive shopping scanner applications so that these software providers are able to process retailer or brand issued mobile barcodes correctly. If a customer scans a retailer controlled code, and the competitive shopper software connects to Neustar, then that information request is handled by the retailer (the code publisher) regardless of whether or not the information is in the competitive shopping scanner database. Neustar clears all common codes supported by industry participants, regardless of source application or publisher.

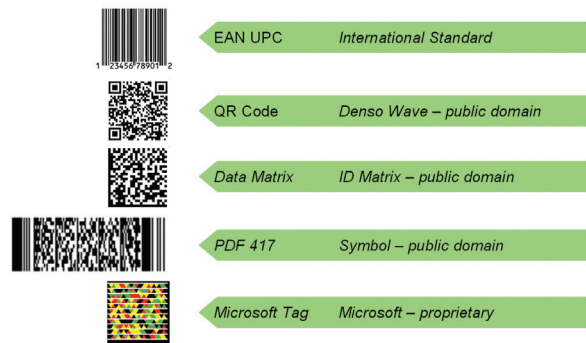
1-D barcodes such as UPC and EAN codes were created to streamline inventory management and product purchase. These codes are in themselves a string of numbers that follow a pre-determined format and length. For them to be useful, they must be looked up through a retailer, scanner company, or

brand application to provide any relevant product and company information. EAN and UPC barcodes These codes are rarely positioned on the packaging in a customer friendly location. They are placed to make it easy for the store personnel to speed checkout at the cash register.

2-D barcodes are more frequently referred to as “mobile barcodes” in the sense that they can contain more data and different types of information that are easily purposed for mobile consumers. These barcodes can contain a string of numbers, just like EAN/UPC codes, or they can contain full text, URLs, telephone numbers, vCards, pre-populated text messages, or other data.

To scan any barcode, a customer must have a camera phone, a scanning application, and Internet connectivity. Virtually all modern camera phones can read mobile barcodes. Right now, almost all camera phones have a compatible scanning application.

Choices in Barcode Technology



V. Retail Applications – Some Examples

Mobile barcodes provide fast access to more information and dynamic content. Retailers, specifically, can give visitors of their brick and mortar stores immediate access to the same types of in-depth product information they have come to expect online.

Mobile barcodes can be used as a means of integrating all the various sales channels for a unified experience. Use mobile barcodes to connect brick and mortar stores, online stores, catalogs, and more to provide a more cohesive experience for shoppers.

Retailers can also use mobile barcodes to create interactive gift cards. With a mobile barcode on a gift card, retail customers can easily check their balance, find the closest store, or view or listen to a message from the gift giver – and turn those interactions into merchandising opportunities.

Mobile barcodes offer a great way to drive people into the store, or incite purchase on the mobile device. All traditional media from newspaper ads to catalogs should include mobile barcodes to help make the purchasing decision easier. Retailers need to use mobile barcodes to connect consumers with store locators, store hours or to get people to sign up for exclusive offers.

VI. Mobile Barcode Tactics for Retailers

Offers & Coupons – Making coupons/rebates available and redeemable at participating retail locations. Coupons and offers work – 50 percent of all items purchased in the United States at grocery stores are bought either on sale or with coupons.

Referrals – A “refer-a-friend” rewards program for existing consumers to acquire more customers. Personal references for products and retailers are critical in driving new business. The most common word-of-mouth activity is helping a friend or family member with a purchase decision, but more than two-fifths also said they had shared advice about information they learned on the Web.

Opt-In/Registering – Incenting new consumers to visit a Web site and register for coupons/rebates. For example, in exchange for watching a video, the customer could be asked to register/opt-in to receive significant rewards. Or, they could earn points; receive a members-only discount or any other loyalty-based incentive. An incentive or reward for the customer’s time boosts participation.

Insider Deals – Offering special deals available only from the retailer. These could be limited to members, a single store, or in offers above those offered by a brand.

Reviews – Invitations to customers to share their experience with the retailer’s products and reward them for the effort. These could come through fan pages on Facebook, Twitter as well as reviews and comments on Web sites and blogs.

Sharing – Using online entertainment tools such as YouTube, social media and blogs as outlets for direct response outreach. Many of these efforts focus on user-generated content, where the retailer chooses to spotlight consumers’ own creativity to successfully draw traffic and create buzz for campaigns. Doritos successfully used this media for its campaigns for the Superbowl in 2009.

Contests or Sweepstakes – Sweepstakes are a popular form of marketing because of the enthusiasm they can generate and their publicity potential. A retailer can assume that a customer has enough of an interest in winning the prizes that they choose to enter the contest. A well crafted mobile barcode and mobile Web site can streamline the registration process, capture needed demographic data, and move the customer to Website pages offering discounts and specials on similar products.

Email – Connecting an email address to the mobile phone creates a connection between the Web, membership in a loyalty program, and the immediacy offered by mobile barcodes. A mobile barcode in an email is accessible to a camera phone when printed or even displayed on the computer screen.

Web and ECommerce – There are tools and systems available to readily move full websites into mobile versions. Except for the newest smart phones, most mobile phones do not have the same capabilities as a computer-based browser; usually mobile phones have limited bandwidth and memory. So if a customer is seeking information on a retailer’s website and using a mobile phone, a mobile-optimized set of web pages will make the experience easier for them.

Media Purchases – In the case of retailer focused on media sales, such as music and movies, barcodes can play the functional role of authorizing access to the content. They can also be used to delegate rights to consumers who purchase the content. An example involves the purchase of a movie DVD. Once purchased, a 2-D barcode provided with the DVD can be scanned by the consumer which triggers a long-in to a digital service that adds the movie to the consumer’s digital account. Barcodes are used in television advertising. Video effectively creates brand awareness, and for some products, direct response television marketing works very well. The most common call to action from television is an 800 number. Short codes are also effective because they put the caller in control of the transaction and require minimal interaction on the part of the consumer to discover more or obtaining a benefit. Mobile barcodes can be scanned from computer monitors or television screens, and so can have the same effectiveness as short codes.

Outdoor – When outside of the home, customers can be reached by outdoor or out-of-home advertising. Formats fall into four main categories: street furniture, transit, billboards or signs, and alternative, which is just about anything imaginable from airborne to vending cart umbrellas. Cost per impression is determined by the number of people who would pass the advertisement on a daily basis. Adding a mobile barcode to the outdoor or out-of-home message gives the customer the chance to respond immediately to the call to action. This response creates a measurable metric for the advertiser, and when combined with the cost per impression, shows a measurable return on investment.

SMS Alerts & Incentives – Nearly 70 percent of mobile subscribers want more SMS alerts for appointment reminders, bill payments, and customer service text call-back requests . Alerts can be stored in the phone for future reference, and since the phone is always with a customer, it is much more convenient than direct mail or even email. Mobile barcode can automate the opt-in process for Alerts by filling in the short code and message automatically on the Customer’s phone. The Customer chooses to opt-in to the alerts by sending the pre-filled in message.

VII. Summary: Best Practices for Mobile Barcode Campaigns

Integrate mobile barcodes into existing digital and traditional media

Mobile barcodes are most successful when they are an integral part of the overall campaign – included in both digital and traditional communication channels as a significant element.

Focus on consumer education

Given their relatively recent entry into the market, consumer education also needs to be paramount in the campaign, with clear instructions on how to scan mobile barcodes and what kind of information will be received as a result – otherwise consumers may be hesitant to participate.

Ensure consumer privacy

Ensure that the consumer's experience and privacy of interaction is safeguarded in all instances.

Ensure barcode integration is effective and appropriate for medium

Mobile barcodes should also be printed in black and white, and if utilizing on a media that has a reflective element, adapted appropriately for the medium.

Ensure campaigns are fully tested

Test and test again to ensure that the barcode works accurately and efficiently. Indeed, any content or service that is triggered by scanning a mobile barcode should be tested to ensure that it works, that it is optimized for mobile and delivers on the value promised to the consumer. This is absolutely fundamental to the consumer experience and interaction with your campaign.

Utilize global, open standards, not proprietary technologies or codes

The deployment of proprietary solutions should also be avoided as it can limit consumer access or market penetration, which will clearly impact on results. The use of mobile barcode solutions that are based on open standards is therefore vital.

Define your expected results

Prior to launching the campaign, ensure you have an understanding of success metrics for the campaign and how to measure them so that you and your brand are able to confirm and assure success.

Have fun!

Mobile barcodes provide an easy means for the consumer to interact with your brand. Have fun and get creative in the campaigns that you deploy to ensure efficiency and high response rates for all participants.

For more information about how you can integrate mobile barcodes into your marketing efforts, visit www.gomocode.com or email barcodes@neustar.biz