

Digital Signage

Digital signage is a relatively new and increasingly common modern adaptation of traditional out of home media such as billboards and posters. Once a novelty only employed by companies with huge resources to support it, the plummeting prices of LCD and other digital displays coupled with the emergence of a host of Signage Network Operators has enabled a much broader range of companies to use the technology for a variety of purposes.

It is not uncommon to encounter digital signage, particularly in large urban centers like New York City, London and Tokyo. Digital displays of all shapes, sizes, and purposes have entered the daily lives of many urban American consumers. Even a partial list of venues for digital signage in New York today contains more than 10 discrete installations:

- Times Square billboards
- Public transit stations
- Payphones
- On top of, and inside taxi cabs
- Building Lobbies
- Corporate Campuses
- Elevators
- Restaurants & Nightclubs
- Retailers
- Busses, both inside and out
- Grocery and Pharmacy check-outs



A digital sign plays a movie trailer at the entrance to a subway stop in lower Manhattan.

Media typically displayed on these systems runs a corresponding gamut. Many digital signage venues exist solely as advertising platforms, showing a range of static graphics and text. More and more signs feature full motion video and animation, both with and without sound. In locations such as elevators, building lobbies, taxis and corporate campuses, companies run media covering services and amenities, corporate news and events, tourism or other local attraction information alongside ad placements. SNOs provide a wide spectrum of functionality, ranging from pure ad networks such as those seen in grocery stores, to fully private “channels” that display only corporate-sanctioned programs and messages. Many SNOs offer web administration platforms, allowing the owners to dynamically change the information being distributed over the network.

In general, digital signage offers several advantages over traditional static out of home media. To a certain extent, digital signage advertising is more accountable than static out of home, in that those impressions of ad units can at least be logged and tracked. While it is still not possible to

make one to one correlations between impressions on a digital sign and an actual pair of eyeballs, the networks and providers of these digital signs can at least demonstrate some measure of accountability on impressions based on foot traffic and time of day. Additionally, the nature of digital signs makes them more flexible than static out of home media for the simple fact that messages can be changed and updated on the fly with little or no cost, and without changing the configuration of the display itself. Finally, many consider digital signage to be a more effective method of creating consumer awareness of brands and messages by virtue of the ability to use motion, video, and sound. Particularly in low light environments or at night, the fact the digital signs emit light means more people will have the opportunity to see those messages, and they certainly attract more attention than a poster or billboard.



A "cab top" LCD displays an animated commercial for a credit card. Info is updated via wi-fi networks.

Applications for Retail Environments

Brick & mortar retailers have been among the first to adopt digital signage displays into their consumer environments. The obvious efficiency of being able to dynamically update information displayed in store, and the ability to centrally manage that information have clear cost savings over printed in-store display media. Digital signs also lend a "high tech" cool factor to the aesthetic of the location, and in many cases the brand as well.

Other advantages include incremental sales lift. Recent Arbitron research indicates that up to 40% of consumers who hear or see specialized retail messages in-store purchase the advertised product. The captive audience of retail digital signage is another advantage, as consumers who encounter an ad message in a retail environment do not have the ability to skip, pause or fast-forward through the message, which some argue results in increased message penetration and brand and product retention. Reaching consumers at the point of purchase is a critical message delivery point; Experian research demonstrates that 70% of purchase decisions are made at or near the point of purchase.



A woman watches an advertisement for V8 on an in-store digital sign in the produce section of Wal-Mart; part of the Wal-Mart TV network.

Some retailers have deployed more advanced forms of digital signage, extending its functionality into the realm of interactivity, borrowing technologies from other areas of consumer electronics, and leveraging advances in kiosk display design. The most obvious among them is the almost ubiquitous presence of "self-service" check-out stations at major retail and grocery chains, including ACME Markets, Super Fresh Markets, Home Depot, Lowes and others. Borrowing a card from those playbooks, many airlines and car rental companies now offer self-services kiosks to customers. These executions often involve touch-screen interfaces, and feature a hybrid form of content -- serving web-like application functionality to the user when in use, and playing closed-loop or 3rd party ad network messages while in idle mode.

Advanced Applications

Extreme examples of merging digital signage with advanced interactivity have recently included Ralph Lauren's installation of a 62" touch screen / digital sign in the window of their Polo store on Madison Avenue in New York in August of 2006, to correspond with their sponsorship of the US Open. The display was later relocated to the Michigan Avenue store in Chicago during the Christmas shopping season in 2006. By touching the screen in the front window of the store, passers by were able to browse through the RXL line of high performance ski wear, and via on-screen keyboard and credit card reader, actually purchase products directly from the screen. Users could then either retrieve purchased products directly within the store, have them sent to their home or office via express shipping, or simply save their shopping cart and email it to themselves for review later. The technology was developed in-house at Ralph Lauren, and deployed via a combination of rear-projection display, and a micro-thin transparent foil printed with biometric sensors to facilitate the touch screen interface. According to David Lauren, the project was modeled on the futuristic computer interfaces seen in Steven Spielberg's movie *Minority Report*. Upon learning the display was a special effect in the movie, Lauren and his team set out to create the real version themselves. It is reported that upon learning of the RL execution, Spielberg actually phoned Lauren to inquire how exactly he had gotten it to work. Thus far, Lauren has not publicly discussed sales results of the window display, but judging from the barrage of buzz and media attention, it may well have served a greater purpose for PR and brand than sales.



A couple interacts with Ralph Lauren's touch screen digital sign in Chicago.

Taking it one step further, Accenture has deployed a wall-sized digital interactive sign at Chicago O'Hare Airport. It offers passers-by the chance to access web-based information on flight schedules, weather, accommodations, and even general web browsing via a giant interactive interface. Using a technology commonly referred to as **gesture recognition**, users simply point, grab, throw, slide, expand and collapse windows on the display using nothing more than arms and hands. The display draws a substantial crowd on most days, and a further examination of the larger social and philosophical implications of reading your email in a window you control with your hands, in front of a group of 10 to 20 onlookers would require another paper in and of itself.



A man browses weather information in front of Accenture's gesture powered interface at Chicago O'Hare Airport.

[GestureTek](#) is one example of an enabling technology behind some of these installations. The company powers gesture recognition and has created attention-grabbing, buzz-building applications for many retailers and tradeshow. See a demo movie [here](#). CatchYoo and UbiqWindow provide similar technology from a company called [LM3LABS](#).

Radio Shack has taken an even bolder step forward by developing a prototype “smart” store called StoreOne. It features an open floor plan that resembles a modern home, with technology integrated into separate rooms as a family might do in a real-world home. Digital signs, kiosks and touchscreens abound, offering product info, inviting shoppers to share information about themselves, and so on. At the store entrance, each shopper is given a card with an RFID tag embedded in it. They can swipe the card at kiosks throughout the store to get personalized information. In some cases, the kiosk might ask a low-barrier question like “is your VCR flashing 12:00?” to learn more about the consumer. But even if they don’t choose to answer the question, the store’s system watches where they go in-store, what products and touchscreens they choose to interact with, and then uses messaging on kiosks and lighting to direct them to other areas or products in-store that might interest them. In effect, the store’s computer-powered systems operate as salesperson and marketer, creating a unique and personalized experience for visitors.

Perhaps the overarching trend behind this march toward ubiquity of digital signage is this: the same kind of addressability, measurability, personalization and accountability that marketers have grown accustomed to online is hitting the real world. And enabling richer experiences as a result.

However, the true viability, meaning, and value of these futuristic applications for interactive digital signage remain to be seen. Implementing something like the Accenture or RadioShack examples is a complicated, long-term and expensive proposition. Some of these examples were likely developed as splashy PR stunts, or at least expensive proof of concepts. Still, their existence and industry reaction has set the bar at a new level, and may signal a time not far off when the resources, technology, and infrastructure required to deploy such digital displays are easy to come by. When that happens, look for digital signage to play a functional and ubiquitous role in the daily experience of average consumers, fundamentally changing the way we view interacting with digital information, advertising, and our own personal communications.

Ideas for Today & Parting Thoughts

Amidst this extremely broad landscape of technologies, applications, opportunities and venues, where can companies interested in experimenting in the space begin to test and learn? Here are a few ideas which, investment and time resources notwithstanding, clients can engage with right now:

- **Start Buying Media on Digital Outdoor –**

With the array of SNOs and digital outdoor media venues, it makes sense to begin including media placements in digital signage and outdoor networks in key urban markets in the US. Aside from wider audience exposure to existing online and broadcast media assets, the larger opportunity for marketers is to customize ad media content to be contextually relevant to the specific outdoor venue it is running on. Picture customized versions of broadcast TV ads where the characters in the commercial are dressed in “New York” type clothing or accessories (I heart NY t-shirt, foam Statue of Liberty tourist hat) running on select digital outdoor venues in and around Manhattan.

Further, the ability to make these outdoor media venues interactive in and around neighborhoods where there are retail locations adds further value to the media without necessitating major changes in ad media or display technology. For example, in ad units displayed on outdoor networks around a store in New York, a “code word” could be displayed. Those who mention it at the store receive a gift with purchase or other promotion. A similar application could involve use of an SMS short code in the ad media.

In general, the opportunity to use existing and retrofitted ad assets on digital outdoor networks, and to take advantage of the proximity of those ad venues to retail stores, is an opportunity worthy of further examination.

- **Digital / Interactive Concierge**

Imagine virtual greeters projected on windows at stores. Using a combination of existing technologies, they could welcome visitors, react to gestures and actions from passers-by, and potentially even answer questions presented in a touch screen FAQ-type environment. This could be done either as human personas, or as hardware products. When no one is interacting, the projection could feature an “attract loop,” perhaps an animated overview of key features aimed at drawing people in to the experience.

- **Create Immersive, Responsive, Interactive Environments.**

Even without a major redesign of stores, it is possible to create a more personalized experience that shoppers can access with or without a conversation with a store employee. Handing out cards with embedded RFID chips, again as in the RadioShack example above, could enable richer demos and personalized attract loops on products featured throughout the stores. One could imagine an RFID-enabled “frequent shopper card” that unlocks the person’s shopping & purchase history, allowing smart systems inside the stores to create a deeply personalized experience (based on many interactions and purchases, accumulated over time) in any store, any time. This could also then be linked back to a user’s online ID, effectively providing an even deeper profile by capturing their interactions on the web site.

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About Avenue A | Razorfish

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