

## A Beginner's Guide to Digital Signage

Improve communications.  
Increase sales.  
Educate. Notify. Alert.  
Deliver the right message  
at the right time.



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You'll be live with one of our technical experts in less than 20 seconds.

## Introduction

In a landmark Supreme Court case from 1964, Justice Potter Stewart remarked that although he couldn't provide an iron-clad definition of obscenity as it applies to the cinema, "I know it when I see it." Providing an iron-clad definition of digital signage proves to be less of a challenge, but, once again, seeing is believing. Semantics can be argued and hairs can be split about what, exactly, constitutes digital signage, but on the whole, it can be expressed in simple terms that are intuitively understandable:

Digital signage is any form of business communication where a dynamic messaging device is used to take the place of, or supplement, other forms of messaging. Until very recently, this simply wasn't viable or cost effective. Screens were too expensive, too big, and wore out too quickly. The return wasn't strong enough.

But the LCD/plasma revolution changed, and is changing, all of that. Screens now are so affordable they can rival the printing costs of static posters over the course of time; they are thin and can hang on a wall; and they can communicate with computer networks and fetch new content, eliminating the "sneakernet" days of employees trotting from screen to screen with armloads of VCR tapes.

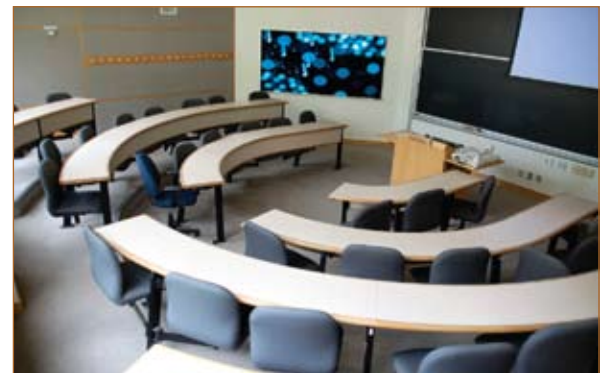
Some of the ways digital signage is used today include:

- In retail, communicating with customers about in-store specials, directing customers to other parts of the store, managing traffic and hotspots, and conveying brand messages.
- In banks, displaying interest rates and product information, as well as lifestyle messages and branding.
- In airports and bus stations, keeping travelers updated on arrival and departure times while providing an advertising vehicle for shops and restaurants.
- In casinos and entertainment venues, creating a customer experience that is consistent with the ambiance and atmosphere of excitement.
- In doctors' offices and waiting rooms, providing entertainment to bored patients while giving an advertising vehicle to pharmaceutical companies and other providers.
- In schools and on corporate campuses, facilitating a level of communication between parties that would have been unthinkable just a few years ago.

And the list goes on. Virtually any place that has printed signage—bus shelters and payphone booths, shopping malls, the tops of gas pumps—has the potential to improve its worth with an upgrade to digital, dynamic messaging.



By Bill Yackey,  
Editor, *Digital Signage Today*



*Digital signage in classrooms is helping facilitate communication and enhance the learning experience.*

## Who benefits from digital signage?

**Retail:** The eyes and ears of prospective customers are discriminating, particularly in that much-sought-after youth demographic. Digital signage can turn heads and make branding headway in the highly competitive retail environment. Using strategically positioned screens, businesses can set up in-store channels for promoting products or services, reach customers at the point of sale and draw foot traffic inside. But it's also great for up-selling new high-ticket items and drumming up interest in "movie trailer" fashion, as well as unloading clearance items quickly. Some retailers go further, using "smart" technology that ties the signage content to a sales database, so what's promoted on-screen dynamically and automatically reflects current inventory in real time.

## The unique features of digital signage networks

### Place is known.

Because the location of any display will be known, this information can be used to make the content more appropriate to the place. If a display is near one particular product, the content on the display can be crafted strategically with this in mind. For example, the content could promote that product or its benefits, create an appropriate mind set (ambiance, reminder) or promote a complementary product or service available elsewhere. Another aspect of "place" that is quite relevant is the fact that often a display is near the point of purchase. A great deal of research has shown that advertisements near the point of purchase are far more effective. Although the size of this effect and the explanation for why it happens are both controversial, it is clear that point-of-purchase information has a massive impact on behavior.

### Time is known.

Because a digital signage network is controlled by a networked content manager, content is "served" as a function of time of day. For example, content aimed at business travelers might be shown at an airport on Monday mornings, and family-aimed content might be shown Friday afternoons.

### Events are known.

Information related to the fusion of time and place also can be known. For example, current weather conditions can be known. The traffic flow can be known. The specifics of an event can be known (concert, sale, flight delay). Such information—and its use—is limited only by the creativity of the digital signage network designers.

### Audience is known.

Because the time and place are known, audience demographic and psychographic information can be well specified. This allows for highly relevant "narrowcasting" that should speak directly to the audience at that moment.

### Content is dynamic.

Dynamic digital content has numerous advantages over other forms of advertising. Compared to print, the content creation/distribution process is more rapid and less costly. Also, the content can be customized and tailored "on the fly" to each display device separately. Finally, the medium allows for animation and, in the case of kiosks, interactive opportunities.

*(Excerpted from "Digital Signage Networks: Theory, Psychology and Strategy," by Pixel Inspiration Ltd., reprinted with kind permission.)*

**Hospitality:** Hotel guests, especially business travelers, demand information to guide them in unfamiliar locales. Digital signage does wonders at delivering relevant and helpful information to guests in a hurry and even enables hotels to customize content for arriving groups or individuals. It's used to promote restaurant and bar offerings, sell profitable services (massage, concierge, dry cleaning, etc.), and publicize the location of meeting and fitness rooms and pool hours—thereby reducing the number of calls to the front desk. It also keeps guests informed of offerings outside the hotel, generating a separate stream of revenue through advertising for local restaurants, tour groups, limo and shuttle services, and local attractions, as well as paid content relating to trade shows.



*Digital signage can be used to get the attention of passersby, share information, and enhance the retail experience.*

**Education:** Used anywhere students frequent (dining halls, lobbies, student unions, and gyms), digital signage is effective in getting the word out about academic offerings, upcoming concerts, or other events. More eye-catching than posters, digital signage enables organizations to promote events without getting lost in the flurry of flyers tacked to bulletin boards. It's also an important tool for emergency notification in both higher-education and K-12 applications. The same digital signage used to disseminate everyday information also can be used to alert students and staff to inclement weather, lockdowns, or evacuations. Issuing campus-wide alerts can be a virtually automated procedure, activated by the entering of a code into a phone by campus police or other authorized personnel. This way, there's no scrambling to get instructions on the air when a crisis occurs.

**Corporate:** Digital signage enables businesses to promote products and create brand awareness in lobbies, in offices, and at trade shows. Large, established corporations can use interactive kiosks to connect with customers on a more personal level. Small, growing firms can use large screens to cast themselves as major players—even on a limited budget. Plus, it's great for communicating with employees. Companies use it to save the time it takes to distribute—and correct—information, make operations more efficient, advise staff of the day's agenda, alert them to emergencies or critical information, motivate their workforce, and spotlight company achievements.

**Government:** Digital signage has brought some much-needed color to the staid government corridors of the past. Publicly owned buildings use state-of-the-art signage to provide visitors with directions, meeting, and event information, and help them navigate layers of bureaucracy. Because screen content in multiple offices can be controlled and updated via the network connection from a centrally administered console, an agency can ensure that the public receives consistent information in a timely fashion. Digital signage also helps keep people entertained and informed of schedules, weather, and news wherever they're forced to wait. What's more, government transit authorities depend on digital signage to deliver real-time—and, if necessary, critical emergency override—messaging alerts to subway or bus stations while also making the commuting experience more pleasurable for the public.

**Healthcare:** In hospitals, multiscreen presentations inform visitors of clinic hours, health screenings, and the latest medical offerings, as well as cafeteria hours and menus. Third-party advertisers, including pharmaceutical companies, use digital signage to reach potential consumers of their products at the point of care. Digital signage also serves as an important PR tool for the health organization, spotlighting its achievements and staff, and promoting wellness clinics and classes of interest to the community. Plus, it's used to reach medical staff and practitioners located in distant rooms of their facilities, whether for internal communications or for broadcasting images from an operating theater to adjoining prep rooms.

Despite all the progress that has been made, digital signage still is a very complex proposition for the company installing it. Mike White, president of systems integration firm Multi-Media Solutions, called digital signage "one of the toughest A/V installs in the world."

## Why is it so challenging?

On the surface, digital signage might seem like simplicity itself. After all, almost everyone has a television set in his or her home, and, in most cases, that set was installed by the person who bought it. Take it home, plug it in, turn it on—that's all there is to it, right? In the case of televisions and homes, yes, that usually is all there is to it, although even this is changing as the evolving nature of home theater becomes more and more complex. But dynamic signage in the business environment is exponentially more complicated for a number of reasons:

- The content strategy usually needs to be tackled from scratch. Digital signage content has a completely new set of requirements; existing media assets often provide a good starting point, but few of them can be reused outright.
- Content needs vary across the enterprise. In all but the simplest digital signage deployments, multiple screen sizes and orientations are used—and a 42-inch screen in landscape mode calls for very different content than a 32-inch screen in portrait mode. The greater the number of screens in the network, the greater the organizational challenge for content.
- Multiple networks might be involved. The most beneficial digital signage products touch one or more networks. But getting any two (or more) networks to communicate is an IT challenge, and the challenge increases with the number of networks and nodes involved.
- Very different business disciplines are at work. Digital signage appears on the surface to be an IT project. And yet, it also seems to be a marketing initiative. In fact, it's both, and a successful implementation calls for some real teamwork and sharing of duties.



*Content is still king—to engage audiences, it needs to be relevant to the people watching it.*

## Business models and cases for digital signage

Digital signage is a business process that will become a daily part of operations the moment the screens are turned on. Companies thinking about implementing digital signage need to carefully lay the groundwork, and this chiefly consists of asking the big-picture questions: Why do we want to do this? What do we want the screens to accomplish? How will we judge whether they are working? Most digital signage installations fall into one of six broad categories:

1. **Sales uplift:** These screen networks take specific aim at increasing sales using digital messaging. Examples include “sale on aisle four”-type messages, countdown discounts (i.e., sales that will expire in a certain number of minutes), cross-sell messages located in strategic parts of the store, and direct calls to action. While this type of display network is of primary interest to retailers, it is used in other verticals such as banking and food service.
2. **Brand messaging:** These networks concern themselves with extending the business brand and enhancing the customer's opinion and experience of that brand. Examples include the in-store network at Target, which continually beams lifestyle messages (animations of happy people using and buying Target products). In the case of large retailers like Target, those messages usually are planned to work with other advertising, chiefly television.
3. **Third-party advertising:** This business model probably has received more attention than any other because it speaks directly to ROI. Under this model, businesses that own or host the screens sell some or all of the screen real estate to third parties. Convenience stores may allow candy makers and beer companies to buy ad space on a rotator or a crawl; screens in public areas often are subsidized by ads for local restaurants and attractions.
4. **Entertainment/customer engagement:** Customers hate waiting in lines, and retailers long have known that if you give those customers something interesting to look at, they'll feel as if the wait is shorter than it actually is. Digital signage can be used to accomplish this “wait-warping,” providing entertainment and lifestyle content to catch the customers' eyes and improve their mood.

5. **Internal communications:** Digital signage also can be used for improving internal corporate, government office, or institutional communications. This “inward facing” signage can be used to boost morale, recognize achievements, and improve business or organizational processes. Get real-time, supply chain-related info to employees through screens near the assembly line or in break areas. In the manufacturing setting, where loud machinery drowns out a voice over a PA system, large screens can be placed above an assembly line to communicate with workers more effectively.

6. **Public messaging:** Keep the general public connected with the services they need, whether it's at wayfinding visitor centers, kiosks in town centers, or at bus terminals or subway stations. Also, under this model, digital signage can be used to broadcast critical, time-sensitive information, or even evacuation orders, by pushing impossible-to-ignore audio alerts and live video feeds to screens where people gather. Used in this fashion, digital signage is an invaluable communication tool for K-12 and higher-education environments, particularly on college campuses. Today's media-savvy youth respond well to a medium where the message is projected and amplified on a larger scale.



*Digital signage can help communicate with employees, sharing information about upcoming programs, boosting morale, and recognizing achievements.*

For No. 3, measurability is easy. The advertising model provides a built-in set of metrics that allow a deployer to determine how well the signage initiative is working: advertising sales. For the other five, though, the business case is a bit tougher. Brand messaging and entertainment/customer engagement are long-term endeavors that are not as easily measured; both work on a psychological level with the customer, and the results might not be noticeable for some time, if ever.

Deployers using digital screens for brand messaging and entertainment/customer engagement purposes need to incorporate the signage budget and workflow into the overall business plan and not expect it to “prove itself” as a silo. Sales uplift proves even trickier because another layer of measurement is required. So you're running promotional spots for a certain type of candy bar—how will you know whether those spots were effective? The data exists in the POS system, but it will need to be stacked up against the playlist of the digital signage network to see what, if any, relationship exists.

And when digital signage is used for internal communications, where it's hoped it will lead to a desired behavior among a targeted audience, it may or may not be easy to measure whether its use has translated into a net savings. The human resources department may be able to quantify increased participation in a certain program—say, enrollment in an annual health-risk screening clinic—by comparing year-to-year figures versus the time before digital signage. But attributing any uptick in participation to the effects of digital signage can, of course, be tricky, particularly if other variables enter the equation.

Much of the evidence to determine digital signage's effectiveness in an inward facing corporate or public messaging setting may be anecdotal (for example, supervisors saying employees are more aware of workplace goals, more inquiries from staff about programs being promoted, surveys of the public that indicate they like what they're seeing, etc.). Hard numbers, however, can be gleaned from before/after studies analyzing faster evacuation times during fire drills or the average wait time for people in a queue.

### Measurement and analysis: ad-based messaging

Selling ad space on a digital sign is not for everyone. Many retailers will find that they are better off sticking to retail, rather than trying to branch out into ad sales; others blanch at the thought of content from other sources appearing alongside their carefully developed brand. But in many cases, the model is a good fit. The growth of in-store media comes at a time when ad buyers are at a crossroads. Brands are experimenting with new media of every sort, looking for ways to stop the bleeding caused by personal video recorders, or PVRs, ad blockers, and a general consumer "tuning out" of traditional advertising.

Media buyers today are in a tough spot. Pressure from advertisers to research and buy new media means more time and effort is required than in the past, when they went straight to TV, radio, and print. One common concern is the possibility of cannibalizing existing co-op funds—in other words, will convincing brands to advertise on digital screens just cause them to reduce the money they spend elsewhere in the store?

According to June Eva Peoples, vice president of business development for measurement software company DS-IQ, the answer is no. "Most of the CPG advertisers we work with bring new dollars to the medium, often from a separate bucket dedicated to experimentation with new media offerings," she said. "P&G, Unilever, Hershey, and others have said publicly that they intend to expand the promotional money they spend in-store, reducing general broadcast dollars. We expect that manufacturers will bring a more rigorous cost-benefit analysis to many areas of marketing, including media spend. This should benefit in-store networks, which are measurable and have very attractive rate cards."

Scott Templeton, senior vice president of business development for LevelVision, said retailers need to totally change their thinking when it comes to co-op money. "Retailers need a frontal lobotomy to fix how they look at this," he said. "They are paranoid that a digital signage application may cannibalize their co-op money, yet they don't know how much they are really getting and what percentage of their channel co-op dollars they are getting. If digital signage has proven to be more effective than most other forms of advertising, why wouldn't you want to shift some of your existing co-op money over to it and sell more product? Selling more product with the co-op dollars you get is what gets you more co-op money next quarter or next year."



*Stores can benefit from digital signage by using it for brand enhancement as well as selling ads on the network for products in the store.*

Templeton, whose company sells ad space on floor-mounted displays, says digital signage is attractive to brands looking to spend their co-op money. "The fact of the matter is, a digital signage network makes better use of existing co-op dollars, helps attract more dollars from existing pools, and allows retailers to tap other pools of money that brands and product companies have," he said. "I have attracted brand and new-product introduction money from Coke and Pepsi because I had a digital network and a proven track record, and this was incremental money the retailer would not have received without the network."

## Dealing with media buyers

The ad-buying business is very different now than it was just a few years ago. While this obviously has much to do with new media, it is largely affected by one particular innovation by one particular company: Google's search marketing. Through the use of keywords, Google allows advertisers to hit certain demographics, which is what media planning and buying is all about.

To that end, screen deployers that want to court media buyers need to spend some time and money doing audience research, building a comprehensive profile of who exactly will be seeing the screens. That information needs to be distilled into a compelling media kit that describes the entire value proposition of the screens at a glance.

For retailers, the potential client list is obvious: brands that are already sold in the store. However, this can create an interesting dynamic when the retailer sells competing products, such as a grocery store with its own private-label foods. For instance, if a given chain sells Nabisco cookies for a net margin of five cents but sells an equivalent house-brand cookie for a net margin of 25 cents, it is in the chain's best interest to emphasize the house brand. On the surface, this would seem to imply that courting Nabisco as an advertiser would be a bad idea. Not so, however. Promoting Nabisco in this case adds brand authority to the store and also allows the store to cross-sell other products that could go along with the Nabisco ones.

"Think about how you communicate the total value delivered to advertisers when they place content on your network," DS-IQ's Peoples said. "The audience, who are they? What is relevant to them? How does your audience reflect demographics and behavior that might be valuable to specific advertisers? Think about how to include measurement services that develop ongoing insight about how your customers respond to the network and specific kinds of campaigns, so that advertisers are buying more than eyeballs—they are getting intelligent, behavior-based targeting."

## Measurement and analysis: brand, entertainment, and promotional messaging

Companies often will use digital signage to enhance their customer's experience, deliver branding messages, and communicate with employees—with no advertisements to be found. Even though there is no ad buyer to report to with such a network, good measurement numbers are just as necessary. And it is wise to begin with some of the same strategies that apply to ad-driven networks—chief among them, the mandate to know your audience.

"People shopping in stores are the same ones zapping out TiVo and blocking banners on-line," said Laura Davis-Taylor, of Retail Media Consulting. In other words, if you want to effectively communicate with the people in your space, do so in a way that will not intuitively feel like an advertisement.

"The shopper is in a store," she said. "Motivate them to buy, to engage, to explore a new product, or simply make them happy. There's a lot of powerful things that can be done to add value to the shopping experience." All the actual methods of measuring customer activity that work for ad-supported networks also work for brand-driven ones, but the data is interpreted differently. On an ad-driven network, a manager might look at the sales data for a specific product at various times of the day and compare that to the playlist to see when ads for that product ran.

For branding messages, that manager would look at specific business aspects emphasized in the digital content. For instance, suppose a sporting goods store loops a promotional spot for its free loyalty program. This playlist could be correlated with POS data on how many new signups were generated.

Some other examples of how data from an informational network can be read:

- A bank uses digital signage to loop through promotional spots for home equity lines, certificates of deposit, or safety deposit boxes. After a month of running this particular playlist, long enough to establish benchmark data, one or more of the spots are switched out, and end-of-day sales results are compared.
- A quick-service restaurant shows combo meal specials on screens above the counter and includes some sort of customer trigger ("Mention discount code XYZ to get a dollar off this meal!"). Not only is the "coupon" data captured, but the customer is trained to look at the screen from now on.

- An automobile dealer uses digital signage to convey branding messages, emphasizing new vehicles and additional features. End-of-month sales figures can easily be correlated with the cars and features that were looped. In addition to matters that are directly related to sales, measurement numbers can help companies refine and improve their physical space and its setup. Traffic data can be visually mapped to show “hot spots,” giving instant visual confirmation of where people are most likely to linger within the store.

If the store's signage content is compelling, red spots on the map (indicating long dwell times) will align with locations of screens, enabling store planners to push the flow of traffic to desired areas by repositioning the screens or adding new ones. On the other hand, if those red spots are not aligning with the screens, that could be a sign that the content is not resonating with customers.

### About Black Box

Black Box Network Services is a leading digital signage and multimedia solutions provider, serving 175,000 clients in 141 countries with 192 offices throughout the world. The Black Box catalog and Web site offer more than 118,000 products including media players and digital signage appliances for plug-and-play implementation of high-impact digital signage in large or small applications.

The company's premier digital signage offering, iCOMPEL™, is an all-in-one, integrated hardware/software solution that gives businesses, schools, and government institutions an affordable, easy way to set up high-impact digital signage without ongoing licenses or fees. More information is available at <http://www.blackbox.com/go/iCOMPEL>.

Black Box also offers LCD and plasma screens, assorted audio and video extenders, splitters, switches, and converters, as well as cabinets, racks, cables, connectors, and other video, audio, and data infrastructure products. To view Black Box's comprehensive digital signage offering, view our interactive e-catalog at <http://www.pmidigital.com/blackbox/blackboxdmp221.html>

Black Box is also known as the world's largest technical services company dedicated to designing, building, and maintaining today's complicated data and voice infrastructure systems.

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