

Digital Signage: Creating Context in Content

Executive Summary

Conventional wisdom suggests that great content is the most effective vehicle to deliver a given message. Content can be entertaining, clever and attention holding without necessarily imparting any useful information to the recipient. If the goal of your digital signage is solely to distract your audience to reduce perceived wait times, then content alone can do the job. But if the point of your message is to inform, educate, build awareness, create relationships or facilitate a decision, then the message must resonate with individual viewers. Real value can only be achieved when your message is relevant to your audience. Context is the appropriate combination of timing, focus and effectiveness that makes content applicable to the viewer.

This is not to say that good quality content is not important; in fact it is vital. The medium is still a major part of the message and people equate quality content with a quality message or brand. If your message is not pertinent to the viewer at that specific time and place, the value is greatly diminished and the presentation may significantly damage your relationship with that viewer. Digital signage is an effective communication medium, but you need to be careful not to communicate the wrong message to the viewer.

This white paper examines the state of digital signage today, and the internal and external forces that are driving change throughout the industry. It also explores how a data-driven approach can engage viewers, streamline processes, assist with decision-making, and ultimately influence behavior among customers, employees, partners and other audiences.

Introduction

In a time when many other communication technologies are experiencing slow or declining growth, the market for digital signage is exploding. According to a study by InfoTrends, at the end of 2006 the narrowcasting industry was valued at \$1.1 billion, with an installed base of 630,000 screens at 97,000 sites. The revenue number is expected to more than double to \$2.5 billion by 2011.

Digital displays are popping up everywhere people congregate. They have the potential to influence the behavior and perceptions of targeted audiences in many different markets. They have become a trusted medium to deliver important messages to the hearts and minds of viewers around the world. So what are the factors driving this growth and what are the barriers to adoption in different industries? The price of display hardware has dropped dramatically and many screen providers have tried to further enhance their offering with integrated PCs and low cost software. But even the best and most innovative communications technologies will fail if there is little or no substantive value to the audience. Many early digital signage adopters tried to build In-store or corporate TV channels targeting large, non-specific audiences. The opportunity in digital signage is to provide true narrowcasting - delivering a specific message to the audience in front of a screen at that given moment, based on real information, whether the audience is one or 100 people. Contextual systems change the message as the audience changes. The mass marketing techniques of television are much less effective than they were in the past and the practice of micromarketing is growing, reflecting changes in how we interact with media today.



From Static to Dynamic

Throughout history, signage has been an important medium for conveying short but important messages. Today, signage is used to inform, promote, direct, attract attention, change behavior, and more. Until recently, however, it was essentially a static medium. A billboard was posted on the roadside, a program listing was hung in a convention hall, a sign was put up in a store window, and there they remained, displaying the same message until someone physically removed or replaced them with a new one.

The development and widespread adoption of digital signage has altered this situation by allowing signage content to become dynamic. Not only does it provide sound and full motion graphics - itself a tremendous advantage for capturing the attention of time-constrained individuals in an increasingly message-cluttered environment - it also allows the content to be easily changed or updated. As a result, a single sign occupying a single space can now convey multiple advertising and/or informational messages. When we can connect to the viewer through the use of rich media, the message becomes an experience with emotion or empowerment. But it is more than just a visually appealing sign; digital signage done correctly is a more effective means of communication, imparting information in real time through effective, meaningful and relevant images.

This connection with an audience is not guaranteed by simply installing digital signage. Many people confuse attraction with influence. While content may be brighter, noisier and flashier than it was in the past, it is often created as a passive medium. Any digital signage solution can change content from one message to another. But value is lost when the content is designed for a broad range of viewers, with the hope that a sufficient segment of the passing traffic at that location will have an interest in the message. Audiences and conditions are constantly changing and most digital signage systems either make no effort to adjust for this or use very simple algorithms based on historic trends. The opportunity lost in that approach is the use of changing circumstances to target messages to unique viewers. Many digital signage installations are akin to a television receiver, conveying messages designed for a very wide audience, pandering to the lowest common denominator. Since the message will likely only hold interest for a very small percentage of viewers, the message becomes diluted and impact is lost. People today expect targeted messages that are specific to their situation. We exist in an over communicated world and have learned to filter out messages that don't apply to us. By not focusing the message to the audience you create a "disconnect" between the audience and the author that undermines both the message and the brand.

General, misdirected messages are a misuse of the technology. Digital signage is a dynamic and rich medium, not a static broadcast medium. Its real potential lies in narrowcasting to small groups of specifically-targeted viewers who are constantly changing. Determining the content based on who is in front of the screen, and/or what they want to know, greatly increases its opportunity to create an emotional, empowering experience. In other words, it gives context to the content.

Context - The Key to Intelligent Action

Leveraging context to deliver targeted content creates an exponential improvement in relevance to the viewer of what is being conveyed. For example, consider a retail setting where digital cameras are sold. A content-oriented use of digital signage will cycle through a visually appealing presentation or series of presentations on each camera's functions and features, perhaps interspersed with attractive photos taken by those cameras.

In contrast, a contextual use of digital signage will trigger unique content for each camera based on customer interaction. When a shopper picks up a camera, the display could provide information about the features and benefits of that particular unit. If the shopper puts that camera down and picks up



a different one, the digital sign would immediately change its content to now show information about the second camera. If a shopper selects two or three cameras at once, the display could provide a comparison between the units to assist the buyer in making a selection.

It could even provide a means for the shopper to indicate the type of information they desire so that the presentation could be made even more specific. In this example, one viewer may be interested in comparing megapixels, whereas another person may be interested in shutter speeds. If Internet-enabled, it could also show product reviews from independent third party reviewers, or user comments that have been gathered by the retailer. Metrics gathered about the type of information most commonly requested can then be used to further refine the content as the organization learns from its customers. Knowing which cameras customers examine, how often, in what order, for how long and what types of comparisons they make helps a retailer plan promotions, manage inventories and lower operating costs while better serving their customers. Tracking information through observation studies and then amalgamating it later is a very expensive and time consuming proposition for a retailer. In this case, however, the system collects the information at no additional cost. Everyone benefits when the system provides real-time data to the customer and the vendor.

Although this example focuses on a retail installation, context-driven digital signage is an effective communication tool in any industry. In a call center, key performance indicators (KPIs), such as the number of calls in each queue, hold times, call resolution, etc. can be displayed so employees and managers can keep track of performance from any point in the room. If performance is measured and immediately reported to the people who directly impact it, they are able to address the areas where they are not performing well and instantly begin to make improvements. Real time information fosters accountability and is one of the primary reasons why ISO quality standards require measurement and reporting to employees as well as managers. Delayed, general or inaccurate information can have the opposite impact on operations because it conveys the message that measurement and performance are not important to the company.

In a large warehouse or manufacturing plant, context-based signage can display logistical information about current order rates, in-process inventory and the quantity of products completed in a given stage of the process. Not everyone spends their day in front of a computer screen and no one wants to shut down equipment to attend meetings away from their stations. By displaying relevant information in a graphical format that is easily interpreted from a distance, organizations are able to dramatically improve productivity. Context-based digital signage allows managers and workers to monitor the ongoing status of specific activities. It can also extend to external information from vendors or customers that could impact operations.

In each of these examples and hundreds of others, digital signage is providing real-time information that drives events to happen efficiently. It becomes part of the decision-making process by dynamically providing the information that's needed to the point of decision, at the time when action is required. The enabling factor to all of this functionality is accurate and timely data.

How Data Drives Context

By now, it should be obvious that adding context to content offers significant improvement in the value of the information being displayed. So why do so many content delivery providers ignore the advantages that context adds? Pre-staging graphical elements to perform in a prescribed manner, such as a PowerPoint slide show, a canned video or a Flash animation is easy and predictable. There are no surprises, no risks and less interaction to deal with. This model is similar to that of broadcast television, where the same content is pushed out to all receivers regardless of any outside factors and the impact on individual viewers is the same. With TV, you need a huge audience in order to get any measurable response (which is unlikely in most digital signage deployments).



In order to create context, you must first have data. This is where most content delivery systems are limited. Real-time data is constantly updating, self-regulating and provides a clear call to action. Real-time data is pushed to the display, not polled. E-mail on mobile phones existed before RIM introduced the Blackberry, but RIM changed the model by pushing mail to each client, helping them leapfrog the competition in the business mobile phone industry. This innovation not only reduced bandwidth consumption and costs, it made each message timely and actionable.

By starting with data at the core and then determining how best to display it, rather than starting with a picture or animation and then trying to add data to it, you can build a much more effective communication tool. Most organizations are awash in data (a key business differentiator). Their challenge is how to make this information actionable. Digital signage is the perfect solution.

Ideally, as in the retail store example, the system gathers data to help an organization refine the information it presents, adding intelligence to the entire process in order to drive better business decisions. By linking back to the system, actual user behavior can be captured, evaluated, and incorporated into the program to make continuous improvements.

Context and Viewer Expectations

In the Information Age, we are constantly bombarded with messages that provide us with frivolous or superficial information we don't need. As a result, we have become very adept at filtering out messages that hold no relevance for us. It is therefore important to target digital signage messages more precisely through narrowcasting to ensure the message we're sending is relevant to the viewer. This mission is best accomplished by segmenting messages and delivering the one that most closely matches viewer profiles.

Large organizations often try to communicate corporate information or build company morale through the usage of signage. They may deliver a simple, common message throughout the facility and just as often this message is ignored because it has no meaning to the person walking by. The much-used inspirational poster of eagles in flight is nice, but once you've seen it, it has little impact. Posting general announcements in a cafeteria or hallways is also easily ignored. This type of messaging quickly becomes part of the wallpaper to the viewer and offers little return for the cost to maintain it. But imagine if the information on the sign was being triggered by the RFID or security chip in a corporate ID badge. The badge identifies the employee, position and department. If a departmental meeting is scheduled, the screen immediately displays that information, current time and countdown to the meeting start time. In a production area a machine operator may see the information related to their function, when the supervisor approaches additional information may appear pertaining to processes upstream and downstream of that location. Between the two of them, they have a view of the total operation - each with information specific to his/her job function. With an interactive system, viewer choices can be further defined at the display to return additional information.

Advertisers know to ask "What's in it for me?" when crafting a message. Content developers need to do the same and linking the message to a variable allows them to provide a unique response for each viewer. Data-driven digital signage allows organizations to deliver the right information at the right time to the right audience - and to modify that information as the time and audience change.

Looking Ahead

We have only begun to scratch the surface of what can be accomplished through data-driven digital signage. As new technologies are incorporated, the systems will be further enabled to target information around individual needs.



Visual recognition technology today allows the system to determine how many people are standing in front of the screen, gender, approximate age and other information. By defining parameters for what content to show to which type of viewers, the system will deliver content that is most meaningful to that group based on current conditions. We do not want to direct a customer to a service or product that is inappropriate or currently unavailable at that location. Five people in an airport with one adult male, one adult female and three children suggests a family, so content might provide a list of family activities in the area, rather than a list of bars and nightclubs.

Lifting a camera off the shelf in an electronics store might trigger the digital signage to remind the shopper of the need for a carrying case, memory cards or photo printers and paper. Conversely, if you were purchasing ink cartridges for an obsolete printer and the store was discontinuing those cartridges, the message might change. As the stock is depleted the store may want to offer for a new printer, the frequency of messages would increase as the local stock decreased.

It's all about conveying relevant information to your audience to help them make a more informed decision, whether the decision is what to serve for dinner, which trucks to load in what sequence, what staff are available for a specific task or which corporate units are exceeding their sales goals (and why). The more ways we have of determining who is in front of the digital signage unit and what they want to know; the better we will be able to break through the clutter and deliver a meaningful message to them.

Conclusion

Although important, in today's over communicated world good content is not enough. To motivate action, your communications need context. Providing context necessitates a data-centric approach that communicates the appropriate message based on current conditions.

Data can flow in both directions - as your audience responds to your message, you learn more about their needs leading up to and during the point of decision. In many cases, data attained at this point in the decision making process allows organizations to gather more information about audience preferences so they can better plan resources or further tailor their messages. Ultimately, a data-driven approach makes digital signage a strategic asset rather than a mere conveyor of general information, helping the organizations that use it to improve business outcomes.

Visual communication is an effective way to deliver these messages, but the visual representation is only as good as the information behind it, and its relevance to the viewer. The technology exists today to make digital signage a much more effective solution, dramatically reducing costs and empowering consumers with information, but it requires a change in the way people approach this medium. Whether you are a customer, an employee or a visitor, you need specific information to make an informed decision; that is empowerment and ultimately what moves people to action.

Omnivex takes you from data gathering to media delivery

Omnivex has been the leader in connecting real-time data to digital display networks since 1991. Omnivex digital signage software gives you the tools you need to manage every aspect of your display network and bring context to your content. Omnivex software manages all aspects of your network including data acquisition and distribution, content and device management from a central location without the need for any proprietary hardware or complex programming. With Omnivex software, your digital signage system can deliver measurable ROI, while simplifying management and lowering costs. For digital signage tools that work, turn to Omnivex.

