



There was an article circulated among business leaders shortly before the turn of the new millennium that made the statement that there had been more technological change in the years between 1900 and 2000 than there had been in the previous 5,000 years. The article went on to say that there would be more change in the years between 2000 and 2015 than in the prior 100 years.

Whether this article was right or not is difficult to say or even prove, but since 2000 one thing has been abundantly clear: Things have been changing and changing quickly. In fact, the scope of change has been so profound that long-established industries — industries that had taken in some cases centuries to build — are being dismantled almost overnight.

The digital signage industry is not and will not be immune to the change. Business models and business assumptions made only five years ago are having to be rethought in order to accommodate changing technological and social trends. In the paragraphs that follow, we'll take a look at some of the more visible change-events of the past few years and speculate on what these things could mean to digital signage.

The Pace of Change *and* Digital Signage

By Steve Gurley



The Change-Events

Early in the new millennium, Apple redefined the purchase of music with the launch of the iTunes music store. Although they were not the first to offer on-line music, they were the first to offer consumers a near-seamless online music purchase experience. Apple was able to elegantly blend copious digital content, electronic commerce and a superior portable music player to create a process that anyone could understand and use. This innovation has led to an almost complete demise of an entire industry of CD manufacturers, distributors and resellers. Thousands of CD and record stores have closed since the launch of the iTunes music store and many more are likely to follow suit.

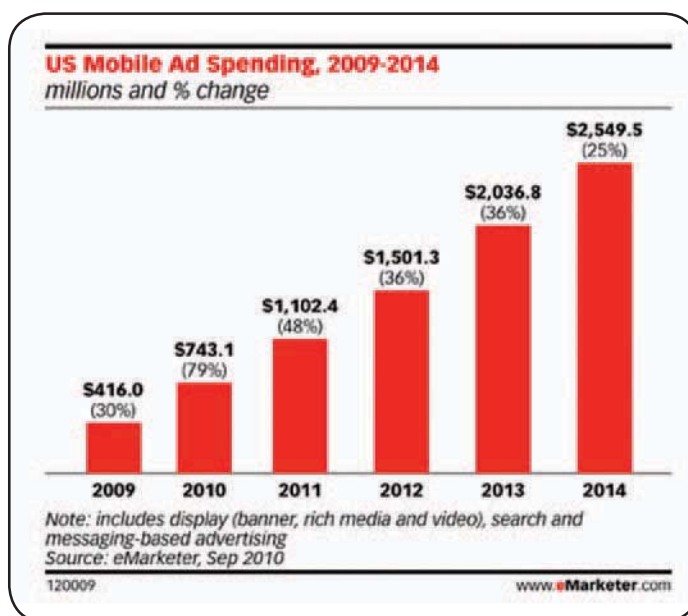
Less than five years ago, Amazon redefined the purchase of books with the launch of the Kindle electronic reader and the Kindle e-bookstore. Like Apple, Amazon was not the first to redefine the rules of book publishing and distribution, but they were the first to make the process of buying an electronic book near seamless – both in terms of the purchase experience and integration with a best-in-class portable reader device. The work by Amazon and those who are imitating the Amazon model is facilitating the collapse of the traditional book publishing value chain – affecting centuries-old institutions. It is anticipated that within the next five years, many traditional book printers, binders, distributors and resellers will be out of business as more books are created, distributed and consumed electronically.

Since 2008, Apple has been redefining the mobile communications experience with its release of the 3G iPhone and the iTunes App store. Within only two short years Apple has redefined the type of phone people carry (e.g. a multi-media-centric smartphones vs flip phones), how they use their mobile phones and the depth in which people engage with their phones. Long established mobile phone manufacturers are struggling to understand how to adapt and survive in an app-centric mobile environment. The new smartphone has also eliminated an entire class of devices known as the personal digital assistant or PDA.

In 2010, Apple released the iPad. Not only does the iPad appear to be redefining mobile computing by affecting the type of mobile device people carry while traveling (e.g. a iPads vs Netbooks or Laptops) but it would also appear that the iPad may be redefining the magazine publishing industry. Although the iPad has only been on the market a little over six months, magazine publishers are weighing the impact that tablet-based computers could have on their entire industry. It would appear too that independent publishers who are not burdened by the legacy investments in paper-based processes and infrastructure of the major publishers

are moving very rapidly to embrace this new medium by producing and distributing electronic magazines at low or no cost to the end consumer. This could have devastating effects on an entire industry as long time leaders are quickly edged out and made irrelevant.

Since its launch in 2004, Facebook has redefined how people access share information, connect with friends and interface with brands. Like Amazon and Apple, Facebook was not the first to provide online social networking, but they were certainly the first to offer a use-model that appealed to the masses. A recent and growing phenomenon is that people are maintaining a near-continuous connection with Facebook via mobile devices. Recent chatter in the technology industry suggests that media portals such as AOL, Yahoo, MSN and Google see this ubiquitous consumer connection with Facebook as a threat to their long-standing dominance as aggregators of digital content. It's hard to believe but some people see Facebook becoming the dominant source of information for consumers in the next five years thereby displacing newspapers and traditional on-line sources of information.



The Potential Implications on Digital Signage

The aforementioned change-elements have enabled consumers to have a broad array of personalized digital content (e.g. music, movies, books, magazines, social information, news, etc) at their fingertips when and where they want it via their wireless mobile devices. It has been shown that long-standing industries and technologies that don't support this new use-model are evaporating.

So what does this mean to digital signage? It means that digital signage must integrate into this new consumer use-model or become nothing more than expensive digital wallpaper. Going quickly are the days when just being "noticed" will be sufficient to make an impact on consumers.

Digital signage must provoke a mobile interaction of some type or its value stands to be diminished. Too much personalized information and content is becoming available in the consumers' palm to allow traditional digital signage use-models to be effective for very much longer. So how can digital signage and mobile technologies integrate? Actually there are seven methods in which this is occurring:

- 1 Dial Tone Multi Frequency (DTMF).** This method utilizes the touch-tone sounds generated by a cell phone's keypad to respond to or control content on a digital sign.

2

Short Messaging Services (SMS). The SMS method employs one or more signage-embedded calls-to-action that invites signage viewers to initiate a SMS-based interaction with the content through the dispatch of a text-based keyword to a common short code.

3

Proximity-based. The Proximity method uses Bluetooth and WiFi transmitters located in or near digital signs to communicate complementary content to a viewer's cell phone. Mobile device users are prompted to accept or reject the information. If accepted, the information is transmitted to the viewer's cell phone.

4

Bar-coding. The bar-coding method relies upon the integration of 2D Bar Codes into digital signage content. Viewers of the content then use their reader-equipped cell phones to photograph the 2D Bar Code. The cell phone's 2D reader application then interprets the bar code and directs the phone to display content that is connected to or embedded in the bar code.

5

Graphic Recognition. This method is similar to Bar-coding except that rather than photographing a bar code, the viewer uses a specialized application on their cell phone to photograph the entire digital sign. The application then works in collaboration with a back-end system to interpret the photo and direct the phone to display server-based content that augments the content shown on the sign.

6

Mobile Web. This method uses digital signage content to promote a web address (URL) that links to mobile phone-optimized content that is designed to augment the content shown on the digital signs.

7

Location-Based. The newest and most sophisticated method of digital signage and mobile device integration is called the Location-based method. This approach leverages a cell phone's ability to identify its geo-location coordinates to deliver content to a viewer that is specific to the user's location.

In this form of convergence, a smartphone application determines the longitude and latitude coordinates of the viewer and the delivers to the viewer server-based content that is assigned to that location.

In summary, technologies that facilitate the seamless integration of digital content with mobile devices are redefining entire industries. Digital signage will not be immune to this trend. By integrating mobile technologies with digital signage, digital signage providers and users will realize that they have a hedge against obsolescence. Mobile convergence also offers a more compelling and engaging experience for the viewer as the content is transformed into a more personal engagement.

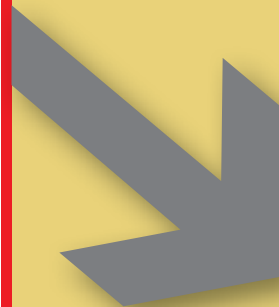
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National retailer, American Eagle Outfitter, uses a QR Code on their NYC Times Square digital sign to engage the public.

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