

The Future of Wireless Technology

Wireless technology holds the potential to affect the marketing and communication efforts of franchise companies.

BY CHARLES AUSTIN



In the past year, the hottest wireless technology trends included the first tablets hitting the marketplace, the dominance of downloadable applications, and the emergence of social networking as a core component of most franchisors' marketing plans. In the coming year, it will be as though each of these trends took steroids. Tablets are expected to become ubiquitous, downloadable applications continue to grow in volume and capability, and social media is undergoing yet another transformational revolution.

Where these technology trends will take us is unpredictable, but they all have one thing in common: dependence upon a robust wireless network. Franchise organizations that want to leverage these trends to market to and communicate with customers are also dependent upon a robust wireless network.

Many franchises have already implemented mobile applications and social media campaigns as part of their marketing plans and those that haven't will be doing so soon. It is important to understand not only what may be possible, but also the limitations of these technologies over the coming years and how that may affect the franchise industry.

A Brief Wireless History

The first commercial cell phone call was made in 1983 on an analog phone that weighed two pounds. Every once in a while you can catch a glimpse of one of these on a television show or movie made in the mid-1980s. Since then, cell phones have gotten smaller and more powerful, evolving into today's smartphones, which provide e-mail and Internet access in addition to placing calls. They also have the computing power to support a dazzling array of applications.

As smartphones keep getting more powerful, they are still limited by the size of their displays, which maxes out around 4 inches. PC- and laptop-type functionality sans keyboards led to the introduction of tablets on the market, beginning with the Apple iPad in April of 2010. Analysts expect that 55 million tablets will be sold in 2011, and their sales will quickly approach the one billion cell phones that are sold annually worldwide. That's phenomenal growth. At this rate, these devices will be almost as common as cell phones within a few years.

The 2011 Cellular Telephone Industry Association conference showcased numerous vendors introducing tablets ranging in size from 5 inches to 11 inches, with some already including 3-D displays. The range of tablet sizes, coupled with the introduction of Android devices and the vast variety of applications available from the Apple and Android stores, will let consumers fill the many niches that today have to be

filled by either a smartphone or a PC, even if it is only a netbook.

Have You Gotten Your 4G Phone Yet?

The first wireless networks were analog, called 1G. Ten years ago, analog networks were converted to digital, followed by the first data services with SMS messaging. Called 2G, these digital networks supplemented much improved voice transmission with slow data transmission for e-mail, along with better security.

The first 3G network appeared in 2001, providing peak data transmission rates of 200Kb/second which made mobile Internet and video transmission possible. Today, at least eight different 3G standards and technologies employed worldwide offer peak data transmission rates up to 56Mb/second.

The wireless carriers are now touting LTE (Long Term Evolution for 3G) and even 4G networks. But despite what the wireless carriers claim, no company has fielded a 4G network yet, at least according to the 4G standards. A true 4G network requires a comprehensive IP-based solution with data transmission rates of up to 1Gbit/second. When wireless carriers claim 4G, they are usually referring to LTE or mobile WiMAX networks.

Consumers have a lot to be happy about with the LTE and WiMAX networks, but they aren't truly 4G. The first true 4G network will probably not be available until 2012. When 4G emerges, in addition to faster transmission speeds, it will feature better quality of service (QoS) for all mobile Apps and services, and the ability to switch seamlessly between multiple networks worldwide. For what it's worth, work has begun on defining 5G networks, but those are not expected to be implemented until around 2020. Interestingly, each generation of wireless capability has taken about 10 years to implement, which is unusual with technology.

Each generation's network is not compatible with the previous generation's network. What this means is that eventually all the 2G phones will cease to function, and even 3G phones and tablets will cease to function as the networks they depend on are decommissioned in favor of newer technologies. There will be strong incentives for consumers to upgrade to phones and tablets that can function on the LTE or 4G networks. With each of

these upgrades, consumers will have more capabilities at their fingertips, and franchisors will have more opportunities to reach them.

But There is a Downside

This phenomenal growth of both smartphones and tablets, however, has potentially serious consequences for the broadband infrastructure in the United States and the world. All of these mobile devices are taxing the capacity of the existing wireless networks.

Have you or your customers ever experienced a dropped call or a painfully slow download to your smartphone or iPad? While you may occasionally move out of range of a cell tower, the real culprit behind these annoying problems is that there just isn't enough wireless bandwidth to support the use of all these wireless devices.

On average, a smartphone uses 24 times as much bandwidth as a cell phone, and a tablet uses five times as much bandwidth as a smartphone. It is easy to see how the growing participation on social networking sites like Facebook, Twitter, LinkedIn and YouTube is creating ever more demand for these limited bandwidth resources. The convenience with which customers can connect with their favorite brands on-the-go is a wonderful opportunity for franchisors to make these luxuries necessities. However, between the physical limitations of wireless and the available spectrum that the wireless carriers have to work with, the wireless "pipes" aren't big enough to transport all of the information.

The problem is growing exponentially as more smartphones and tablets hit the streets.

Fortunately, the wireless industry and the government are very much aware of these bandwidth issues and are expending a great deal of effort to work together to get the most out of the existing spectrum the wireless carriers need.

The Federal Communications Commission is also working to increase the spectrum available to support mobile wireless. But all of these efforts will likely come up short, as the demand for wireless

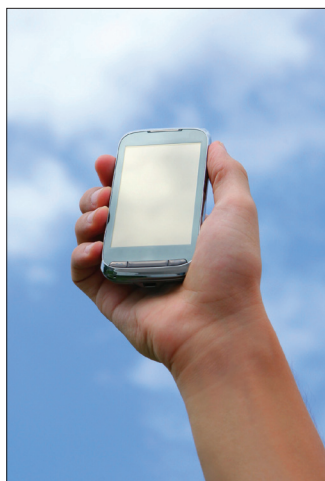
broadband capacity is soon expected to outstrip the supply by a factor of as much as 10.

What Does This Mean for Franchisors?

While there isn't much franchisors can do to address the wireless bandwidth shortfall, they can help to be aware of its implications. Wireless carriers are now beginning to limit data plans or throttle what they consider to be excessive or abusive use of their wireless networks. Some people still pay for every SMS message they send or receive, though this has in large part evolved to a set monthly fee for unlimited SMS messages.

The pricing models for data plans are evolving and will continue to evolve, but for most people, unlimited data plans are a thing of the past. Franchise companies designing mobile applications to support their brands and connect with current and potential customers should be sensitive to the size of the images or data being transmitted. This not only helps reduce download delays (which affect your customers' experience with your brand) but avoids unexpected surprises on your customers' phone bills due to excessive and potentially unnecessary data transmissions. Slow service plus unforeseen charges can cause consumers to avoid using your applications and, worse, could negatively affect your brand.

As technology continues to evolve, it is always helpful for franchise organizations to be aware of potential opportunities, as well as limitations. As your dependence on wireless networks grows through the use of mobile applications on smartphones and tablets to connect with your customers and build your brand, keep these potential limitations in mind. ■



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