J.D. POWER AND ASSOCIATES®

POWERINSIGHT

Next-Generation Wireless Networks: Where's the Payoff?

2012 U.S. WIRELESS STUDIES

Wireless carriers have collectively invested several billion dollars in 4G, or next-generation mobile networks, and are expected to continue significant investment during the next several years. Estimates are that by 2016, annual spending on Long-Term Evolution (LTE) network technology alone will be in excess of $16 billion globally.[1] Early indications suggest that carriers will see returns on these significant investments, as 4G smartphone customers are more engaged with their device, more reliant on their wireless connection, more satisfied with their experience, and more loyal to their carrier, according to wireless customer research conducted by J.D. Power and Associates.

While most consumers have heard of 4G and know that it means a faster network than 3G, many are unaware that the various types of networks being marketed as 4G—LTE, HSPA+, and WiMAX—function differently and run at different speeds. (In fact, some of these types of networks have initially failed to meet requirements established by the International Telecommunication Union (ITU) to qualify as 4G.) Importantly, because wireless customers have high expectations regarding the level of service 4G should provide, such as faster upload and download speeds and network reliability, carriers need to appropriately set and meet those expectations in order to avoid negative backlash. The following analysis is based on ownership of devices that are being positioned by carriers and manufacturers as 4G-capable, compared with non-4G smartphones and traditional handsets.

In the United States, 4G smartphone customers typically spend $6 more per month on wireless service than do non-4G smartphone customers and $43 more than those with traditional handsets. In addition to opting for greater 4G network speeds, these customers are likely to purchase additional features and more expensive calling and texting plans. J.D. Power and Associates expects that by February 2012, 10% of mobile phones will be 4G enabled. This means that as of February 2012, carriers will collectively recognize approximately $200 million per month in incremental revenue from 4G relative to non-4G smartphones, and revenue will continue to balloon as the share of 4G devices on the market grows.

"In the United States, 4G smartphone customers typically spend $6 more per month on wireless service than do non-4G smartphone customers and $43 more than those with traditional handsets."

1 O'Brien, Kevin. "Faster Broadband, but Who Needs It?" *New York Times Online*, October 24, 2011.

	4G Smartphones	3G Smartphones	Traditional Phones
Carrier Satisfaction (10-point)	7.45	7.18	7.19
"Definitely Will Not" Switch Carriers	44%	35%	31%
"Definitely Will" Recommend Carrier	34%	28%	28%

While wireless customers are being inundated with advertising for next-generation service, the inconsistent use of the term 4G may cause confusion as to what improvement in speed they should expect. Further complicating matters, carriers are at different points in executing their network rollout. In an effort to examine the impact of 4G service on the customer experience, J.D. Power conducted analyses using survey data collected from wireless customers from July through October 2011.[2]

Returns on Investment in 4G

Among customers using 4G-enabled smartphones, overall satisfaction with their wireless carrier is 7.45 (on a 10-point rating scale), compared with just 7.18 among those using non-4G smartphones, such as the iPhone. These 4G customers are recognizing value in their ability to browse the mobile Web and download with substantially faster speeds. Overall satisfaction with Cost of Service among customers with 4G devices is 6.78, compared with just 6.39 among non-4G smartphone customers. More specifically, 4G customers rate their carrier .45 point higher than do non-4G smartphone users in *Fairness of price paid for additional services (Web browsing, text messaging, etc.)* (6.68 vs. 6.23, respectively). Despite paying $31 more, on average, for their smartphone, compared with non-4G customers ($194 vs. $163, respectively), 4G customers rate their carrier .23 point higher for *Fairness of price paid for equipment* (6.66 vs. 6.43, respectively).

Not unexpectedly, 4G smartphone customers are also more satisfied with their carrier's network than are non-4G smartphone customers (7.19 vs. 6.98, respectively), and provide higher ratings for network speed although they do not experience significant improvements in network continuity. For example, diagnostics pertaining to such continuity issues as mobile email and website connection errors are very similar between 4G customers and those with non-4G smartphones; however, 60% of 4G customers indicate that they experienced excessively slow loading of their mobile Web browser at least once in the 2 days prior to being surveyed, compared with 68% of customers with non-4G smart devices.

2 Source: J.D. Power and Associates Wireless Industry Platform (July–October 2011).

In addition to being more satisfied with their wireless carrier, 4G customers are more satisfied with their device. For instance, 4G customers rate their phone's *Call quality* 8.12, compared with 7.83 among other smartphone customers. In addition, customers with 4G smartphones rate *Processing speed* 7.96, which is .52 point higher than among non-4G smartphone customers.

The data identifies battery life as an area where manufacturers have an opportunity to improve satisfaction. Despite utilizing new technology, many 4G smartphones are plagued by poor battery life. Among 4G smartphone customers, the rating for *Overall battery performance* is just 6.07, compared with 6.76 among non-4G smartphone customers. To maintain their current successes and improve satisfaction and product quality, manufacturers will need to develop improved battery technology to support the level of use of 4G devices.

It is also clear that customers with 4G-capable smartphones are more engaged with both their device and their wireless service than are those with non-4G smartphones or traditional handsets. Customers with 4G smartphones indicate they use 649 wireless calling plan minutes, on average, per month, compared with 565 and 352 among non-4G smartphone and traditional handset customers, respectively. In addition, 4G customers indicate that they sent or received 74 text messages, on average, during the 2 days prior to being surveyed, compared with 55 among customers with non-4G smartphones—a difference of 19 messages. Because they can typically surf mobile sites with greater speed, 4G customers also access the mobile Web more frequently—an average of 13 times during the 2 days prior to being surveyed vs. 10 times among non-4G smartphone customers. Higher usage of voice calling, texting, and data plans typically requires that 4G customers purchase more expensive wireless plan options, which drives the higher average monthly bill.

One of the benefits of 4G technology is that it allows for richer video content viewing on the go. Next-generation mobile network technology allows for faster downloads and high-definition video streaming. Video content providers stand to profit, as 4G customers are 24% more likely to regularly download and view video content on their device than are non-4G smartphone customers.

The level of engagement among 4G customers is also influencing the mobile applications market and mobile social media usage, as these customers use approximately four more mobile apps per month than do non-4G smartphone customers. Unfortunately for application developers, spending on applications is actually lower among 4G customers than among non-4G customers—an average of $1.42 per month on applications vs. $3.27, respectively. However, this difference is largely a result of higher spending among iPhone customers (included in the non-4G segment). Spending on mobile apps is likely to increase among 4G customers with the release of more Android applications, as well as a 4G iPhone. In addition, 4G customers indicate they spend 34% more time playing games on their phone than do non-4G smartphone customers, a favorable indicator for businesses seeking to profit from online gaming.

Next-Generation Wireless Networks: Where's the Payoff
2012 U.S. WIRELESS STUDIES

In addition to communicating more frequently via phone calls and texts, 4G customers spend more time accessing mobile social network sites. In some cases, social networking sites may also profit from 4G adoption because of increased advertising dollars from higher usage and growth of location-based services. On average, 4G customers spend 52% more time on mobile versions of social networking sites, such as Facebook, Twitter, and LinkedIn, than do non-4G smartphone customers.

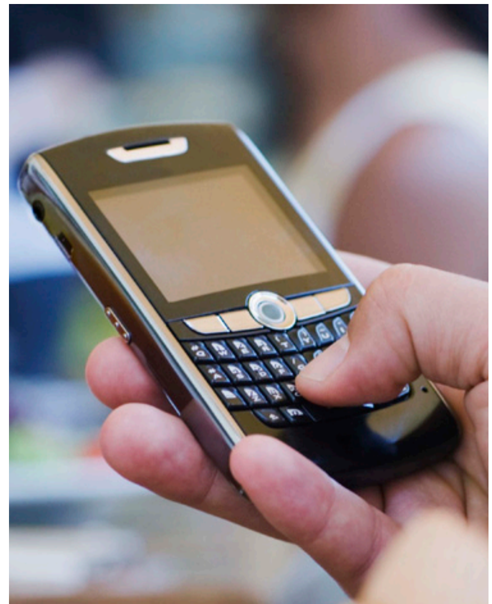
This level of engagement, combined with perceived value, is leading to high levels of customer loyalty and advocacy. Nearly half (44%) of 4G customers indicate they "definitely will not" switch their carrier within the next year, compared with 35% of non-4G smartphone customers and just 31% of those with traditional handsets. Nearly all (97%) 4G smartphone customers are under contract with their carrier, compared with 91% of non-4G customers and 82% of traditional handset customers. In addition to being more loyal, 34% of 4G customers indicate they "definitely will" recommend their carrier, compared with 28% of non-4G smartphone and traditional handset customers. Additionally, high levels of satisfaction among 4G smartphone customers has resulted in 5.6 recommendations, on average, during the past 12 months, compared with 4.4 and 3.6 recommendations among non-4G smartphone and traditional handset customers, respectively. By providing a premium product, carriers are creating very loyal brand advocates.

For 4G to continue as a driver of revenue growth and retention—thereby justifying the enormous capital investment in network upgrades to shareholders—J.D. Power and Associates recommends the following actions:

- **Continue to track 4G adoption rates and monitor future device launches to understand existing customer experiences and reasons for upgrading.** It is crucial that carriers ensure customer needs are still being met in the days and weeks following a 4G device upgrade, as more advanced technology may pose new challenges based on the type of device purchased. Offering device operation and optimization training and soliciting feedback in the weeks following an upgrade may serve as ways to instill customers' confidence in their wireless investment, as well as reduce confusion and the number of service inquiries. Since 4G smartphone customers are more prone to use social media, trending and analyzing social media "buzz" may provide significant insights into customer issues.
- **Educate customers on the benefits of 4G technology and inform them of deployment plans.** This is critical to long-term adoption rates and ultimately increasing the average monthly rate per user (ARPU). Market variation requires that wireless retailers improve communication with customers in many areas. For example, network speeds in New York City may be very different from those in Los Angeles. Further, even within the same market, carriers may be at completely different points in their 4G deployment process. Carriers must be mindful of how 4G is marketed, and ensure that customers understand the benefits associated with this network upgrade, particularly as newer 4G devices, such as tablets, are also being marketed.

As carriers continue their rollout of 4G service to new markets, it is critical for them to set realistic expectations with regard to rollout timelines, price, and speed, and it is even more important to deliver on these expectations.

- **Provide a distinct, consistent value to customers.** This is the common denominator among the highest-ranked carriers in J.D. Power and Associates wireless studies over time. Value is not purely a function of providing service at a low cost, as evidenced by 4G customers rating their carrier higher in *Cost of service*, despite paying more each month. Perceived value is also defined by the price, product, or people with whom customers interact. Wireless customers may be willing to pay a premium for an outstanding 4G network when they appreciate the benefits it brings. Identifying competitive strengths and redefining or reinforcing the value proposition are unending endeavors. More importantly, fully understanding what aspects of the experience may drive product value and satisfaction, such as network coverage, reliability, and speed, lay the foundation for improved lifetime customer value and advocacy.



For more information, please contact:

Kirk Parsons,
Kirk.Parson@jdpa.com

Steve Kirkeby
Steve.Kirkeby@jdpa.com

Ross Gagnon
Ross.Gagnon@jdpa.com

or e-mail us at jdpower.com