

The New World of SP Wi-Fi

Cisco IBSG Research Uncovers What U.S. Consumers Want from Wi-Fi and Mobile

By Stuart Taylor and Andy Young

The insatiable demand for smartphones, tablets, and other connected devices is generating staggering amounts of mobile data. The Cisco Visual Networking Index (VNI) predicts that global mobile data traffic will increase 18-fold from 2011 to 2016, reaching 10.8 exabytes per month. In parallel, the use of Wi-Fi for Internet access is exploding as more mobile devices are Wi-Fi enabled, the number of public hotspots expands, and user acceptance grows. Until recently, most technologists and mobile industry executives viewed Wi-Fi as the “poor cousin” to licensed mobile communications. And they most certainly never viewed any role for Wi-Fi in mobile networks or their business. The explosion of mobile data traffic has changed all of that.

Most mobile operators now realize that offloading data traffic to Wi-Fi can, and must, play a significant role in helping them avoid clogged networks and unhappy customers. In addition, service providers (SPs) are struggling to understand new business models for making money from Wi-Fi. However, there is currently very little knowledge about how end users are actually using Wi-Fi, how they want to employ it in the future, and, more specifically, about what drives them to connect their devices to the Internet with Wi-Fi rather than “mobile.”¹

To learn more, the Cisco® Internet Business Solutions Group (IBSG) conducted a survey of 1,079 U.S. mobile users to understand their needs and behaviors, current and future mobile usage, and level of interest in Wi-Fi and new forms of monetization. The research findings are important because they allow SPs to understand the size of the opportunity, develop strategies for success, and differentiate their Wi-Fi offerings and initiatives to become more competitive.

Top 10 Research Findings

Findings from the Cisco IBSG research will have a powerful impact on the ability of SPs and other companies to take advantage of the explosive growth in mobile devices and the rise of Wi-Fi as an alternative means for connecting them to the Internet. This paper highlights the key research findings and future predictions. Additional details and insights are included in three additional white papers that are part of the *Next-Generation Mobile Access*² thought leadership series. Here are the top 10 overall research findings:



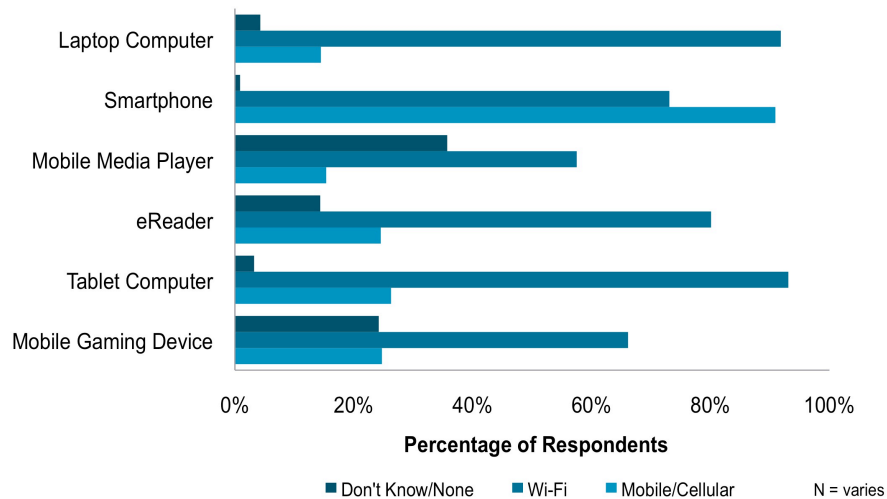
Cisco Internet Business Solutions Group (IBSG)

1. Mobile devices are now Wi-Fi enabled “nomadic” devices.

People love their mobile devices. Our research shows that 75 percent of Americans now have laptop computers. Perhaps more significant, our findings show that the number of smartphone users has surpassed that of basic mobile phones: 52 percent own smartphones versus 48 percent who use traditional mobile phones. In just two short years since Apple launched its iPad, 20 percent of Americans now own some kind of tablet, and 20 percent also report owning an eReader.

The remarkable thing is that all of these devices now have Wi-Fi Internet access capabilities. In fact, with the exception of smartphones, Wi-Fi is now the predominant access technology for mobile devices (see Figure 1). More “nomadic” devices like laptops, tablets, and eReaders almost exclusively connect to the Internet through Wi-Fi, with only approximately 20 percent of these devices having any mobile connectivity capability.

Figure 1. Device Network Connectivity (Owned Device).



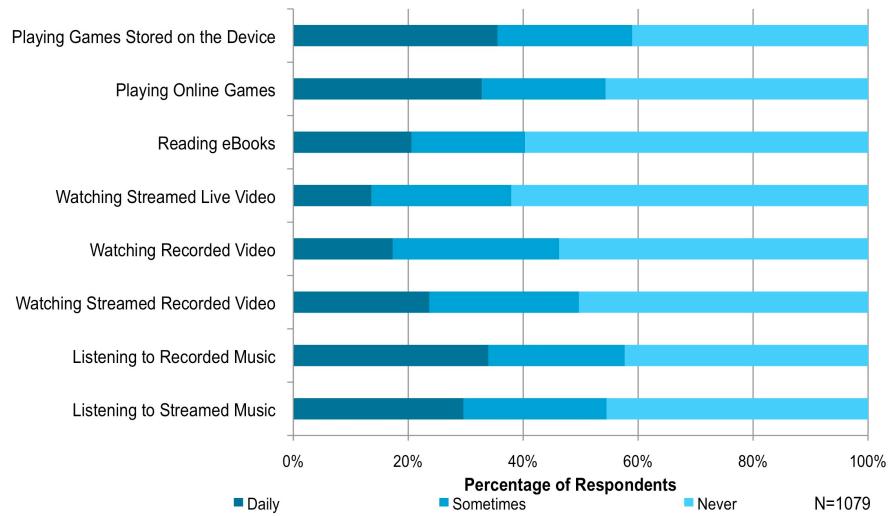
Q10. Please describe the wireless capabilities of each of the following devices that you own.

Source: Cisco IBSG, 2012

2. Entertainment is shifting to the palm of our hands.

These new mobile devices are increasingly the place we go for entertainment. As Figure 2 shows, almost half of all mobile users are consuming all forms of video, music, books, and games on their devices on a regular basis. And, a quarter of all consumers are now reaching for their mobile devices to be entertained. We expect this trend to continue to grow as devices become more capable and networks become faster.

Figure 2. Daily Use of Mobile Entertainment Services.



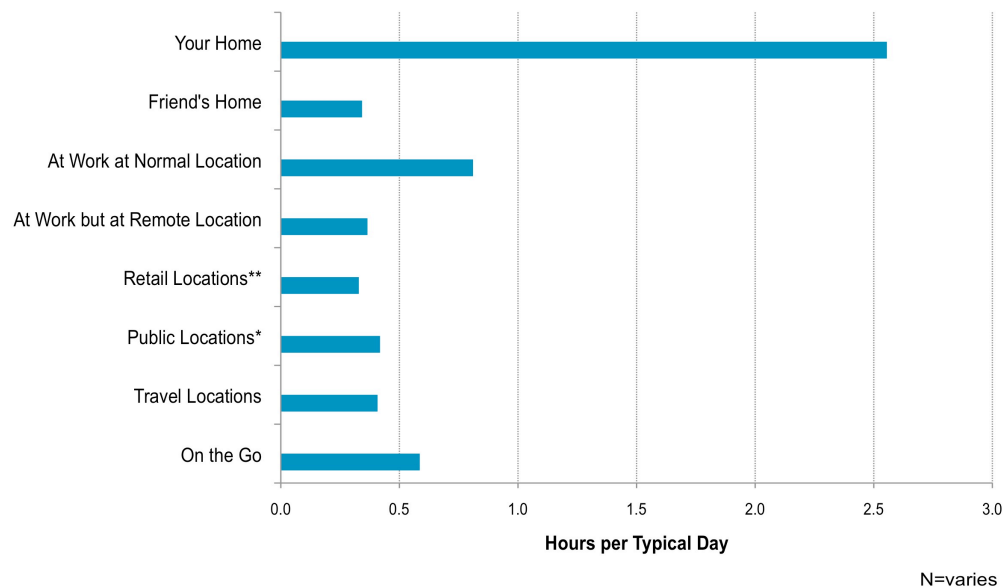
Q56. On average, how often do you use your mobile devices (e.g., smartphones, tablets, laptops) in each of the following ways?

Source: Cisco IBSG, 2012

3. It's all about the home.

While they may be called “mobile devices,” home is definitely where the device is. Mobile usage has definitely shifted to the home in a big way, as can be seen in Figure 3. All consumers use their mobile devices at home, averaging more than 2.5 hours of usage in a typical day—more than double the time that they spend using them at work. While two-thirds of people still use their devices on the go, the world of mobile devices is changing from a “mobile” on-the-go world (average usage of 0.5 hours per typical day) to a “nomadic” world dominated by the home (2.5 hours). And, people expect to increase their home use of mobile devices even more.

Figure 3. Average Daily Device Usage by Location.



Q33. In a typical day, for how long do you use your mobile devices in each of the following locations?

* Public – e.g., stadiums, parks, schools
 ** Retail – e.g., stores, restaurants

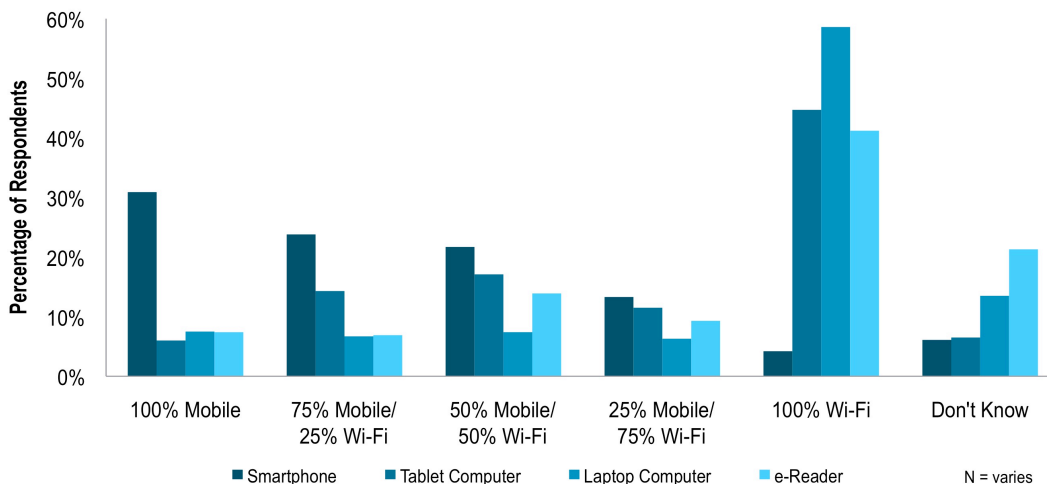
Source: Cisco IBSG, 2012

4. Mobile users are connecting their devices predominantly via Wi-Fi.

This shift to Wi-Fi-enabled devices and locations is clearly showing up in how users are choosing to connect their devices to the Internet. As Figure 4 shows, most mobile users are connecting their devices via Wi-Fi at some point, including 70 percent of smartphone owners. Approximately 50 percent of tablets, laptops, and eReaders are connecting exclusively through Wi-Fi. Although 30 percent of smartphone owners are connected only via the mobile network, the remaining 70 percent are supplementing mobile connectivity with Wi-Fi. In fact, on average, smartphone users use Wi-Fi one-third of the time to connect their devices to the Internet.

Even more astounding is that, with the exception of smartphones, users would prefer to connect all of their devices via Wi-Fi. Given a choice, more than 80 percent of tablet, laptop, and e-Reader owners would either prefer Wi-Fi to mobile access, or have no preference. And, just over half of smartphone owners would prefer to use Wi-Fi, or are ambivalent about the two access networks.

Figure 4. Current Distribution of Network Connectivity by Time.



Q29. Of all the time you spend using mobile data (e.g., browsing the Web, using email, watching online video) on each of the following mobile devices, what percent of the time do you use a Wi-Fi network (i.e., connected to a wireless router or hotspot at a given location) versus a mobile/cellular network (i.e., over 3G or 4G mobile)?

Source: Cisco IBSG, 2012

5. People prefer Wi-Fi to mobile for connecting their mobile devices.

Remarkably, if given a choice between access networks, mobile users choose Wi-Fi over mobile across all network attributes, with the obvious exception of coverage (see Figure 5). Also worth noting is that across most attributes, one-quarter of consumers see no difference between the two networks. While Wi-Fi cannot compete with the now nearly ubiquitous coverage of cellular networks, it is remarkable that consumers consider Wi-Fi easier to use and more reliable than mobile. And, despite the technical superiority of cellular mobility in the area of security, people clearly do not make this distinction. As is often the case with technology, there seems to be a huge gap between the technical reality and user perception across the key distinguishing attributes of the two access networks.

Figure 5. Preferred Network Access.

| Attribute | Mobile/ Cellular | Wi-Fi | No Difference | N* |
|--------------------------------------|------------------|-------|---------------|-----|
| Lowest Cost | 20% | 56% | 24% | 746 |
| Speed of Network | 18% | 58% | 24% | 800 |
| Best Reliability | 31% | 46% | 23% | 794 |
| Best Performance for My Applications | 27% | 46% | 27% | 759 |
| Best Coverage | 46% | 35% | 19% | 792 |
| Most Secure | 34% | 35% | 31% | 753 |
| Easier to Use | 29% | 40% | 31% | 821 |

* Don't Knows removed from sample.

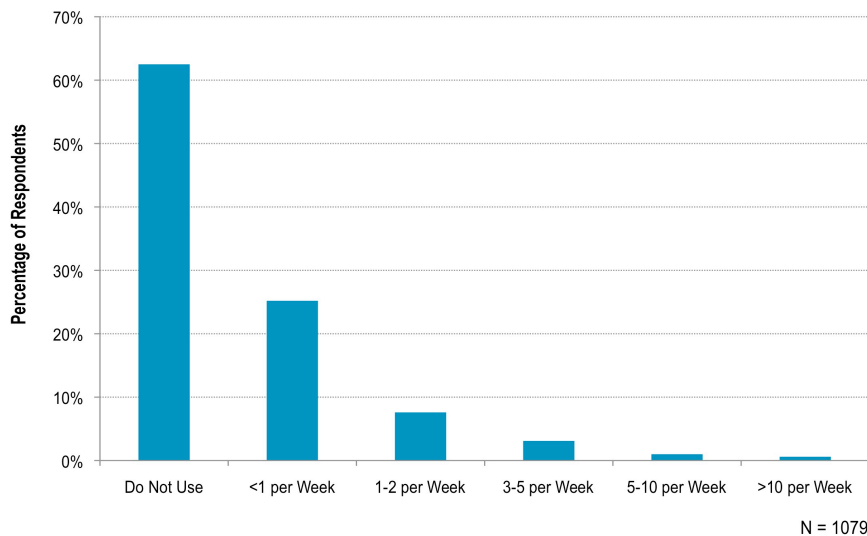
Q38. Thinking about Wi-Fi and mobile/cellular networks, which type of wireless network do you think offers the most desirable performance or features in each of the following areas?

Source: Cisco IBSG, 2012

6. One-third of mobile users use a public hotspot at least weekly.

Mobile users are definitely accessing Wi-Fi outside of the home and workplace. One-third of consumers take advantage of a public hotspot at least weekly, with 12 percent doing so more than once per week. The top locations for these more active users are public outdoors (e.g., parks, streets), coffee shops/restaurants, and retail locations.

Figure 6. Public Hotspot Usage.



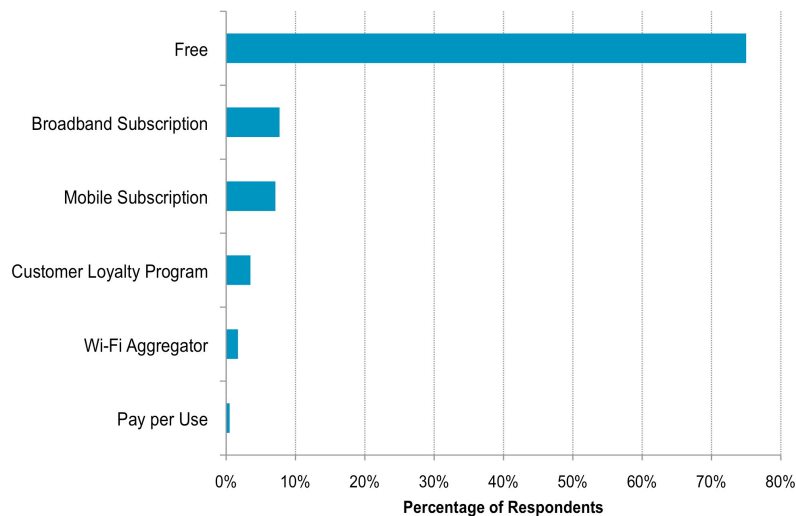
Q35. How frequently do you use public Wi-Fi hotspots during a typical week in each of the following locations?

Source: Cisco IBSG, 2012

7. Consumers expect free Wi-Fi.

The rapidly evolving public Wi-Fi business has significantly changed consumers' expectations. Remarkably, very few users are actually paying for public Wi-Fi. Three-quarters of regular Wi-Fi users enjoy free access to public hotspots and 19 percent as part of a broadband subscription (8 percent), mobile plan (7 percent), or loyalty program (4 percent). Business-expense-account-friendly venues such as hotels, airports, and trains are the most popular locations used by the less than 1 percent of regular users who pay for public Wi-Fi access.

Figure 7. Payment for Public Wi-Fi.



Q37. When using public Wi-Fi hotspots, how do you most often pay?

N=varies

Source: Cisco IBSG, 2012

8. Offering free Wi-Fi can be an effective way to retain existing customers and attract new ones.

Bundling free public Wi-Fi access with a home broadband subscription is an important factor in combating customer churn. Almost two-thirds of broadband subscribers who know that free Wi-Fi is bundled with their home broadband subscription indicate that it is a “very” or “extremely” important factor in their choice of provider. Not only does the inclusion of free public Wi-Fi seem to be effective in retaining existing broadband customers—it may also be a means of attracting new ones from competitors. Half of all broadband customers indicate that they would be at least moderately likely to switch providers if they were offered free public Wi-Fi, with 22 percent saying that they would be “very” or “completely” likely to switch.

9. The “New Mobile” = Wi-Fi + Mobile.

The results of our research seem to indicate that we may be on the verge of a “New Mobile” paradigm—one in which Wi-Fi and mobile networks are seamlessly integrated and indistinguishable in the mobile user’s mind. Almost 60 percent of consumers were “somewhat” or “very” interested in a proposed offer that provides unlimited data across combined access networks for a flat monthly fee. Unsurprisingly, the biggest perceived benefits were lower overall costs and unlimited data, signaling the end of uncertainty about

overage charges. However, more than one-quarter of people liked the location flexibility, reliability, and seamless transfer between networks that this proposition offered.

10. There are new ways to make money from Wi-Fi—beyond offloading.

To date, most service providers have viewed Wi-Fi as a means to offload some mobile data traffic and help retain customers. However, we have discovered new ways to make money from Wi-Fi. Specifically, we found a significant level of customer interest in three new, innovative business models:

1. **Secure Wi-Fi access to content stored remotely in a digital locker:** The biggest perceived benefits are: 1) lower cost/no overage; 2) flexibility of location and device; 3) data security and privacy.
2. **National/international Wi-Fi roaming:** The biggest perceived benefits are: 1) lower cost/no overage; 2) flexibility of location; 3) no mobile roaming charges.
3. **Enhanced in-store shopping experience (e.g., product information, mapping, coupons):** The biggest perceived benefits are: 1) efficiency while in the store; 2) free Wi-Fi access; 3) personalized and relevant deals/coupons; 4) enhanced shopping experience.

Top 5 Mobile and Wi-Fi Predictions

While it is never easy to predict the future, here are five predictions for key changes in the mobile industry over the next two years as an outcome of the Cisco IBSG research:

1. Mobile will become one of the primary ways people access entertainment. Within the next two years:
 - 75 percent of mobile users will access social networks
 - More than 50 percent of mobile users will watch streamed and recorded videos
 - Up to 50 percent of mobile users will read eBooks
2. Home will continue to dominate other locations for mobile device usage. In the next two years, more than 50 percent of all mobile device usage will occur in the home.
3. Devices will also get “out of the house,” with increased usage in public spaces. In the next two years, 15 percent of all mobile device usage will occur in retail and public locations.
4. Wi-Fi will become the predominant access technology for smartphones. Within the next two years:
 - More than 75 percent of smartphones will regularly use Wi-Fi
 - Smartphone owners will use Wi-Fi almost 50 percent of the time to connect to the Internet
5. While smartphone penetration will continue to increase, much of the growth of mobile devices will come from nomadic devices. In the next two years:
 - 25 percent of consumers will have eReaders
 - 33 percent will have tablets

Winning in SP Wi-Fi

New devices, changes in customer behaviors, and technological advances are rapidly pushing the use of Wi-Fi as a wireless access technology by mobile users. Cisco IBSG's mobile connectivity research clearly demonstrates that consumers are adopting Wi-Fi to connect their growing portfolio of mobile devices to the Internet. Many users, in fact, seem to prefer Wi-Fi to using traditional mobile cellular networks for wireless connectivity. While mobile users recognize that there are differences between the two access technologies, most see them as part of a seamless, integrated means to gain the constant connectivity that their mobile lives and devices demand. Many mobile providers may see this as a threat to their traditional mobile business. However, Wi-Fi does offer new opportunities to enhance the overall mobile customer proposition and experience, as well as commercialization models.

Service providers must consider several important implications and potential strategies to position themselves to capture Wi-Fi opportunities:

- **Incorporate Wi-Fi as an integral part of the portfolio.** Use pricing, marketing, and new technological solutions to create compelling and integrated offers and solutions of value to mobile users. Create new Wi-Fi business opportunities around non-cellular “nomadic” devices, such as tablets and eReaders.
- **Target Wi-Fi use in the home.** Create solutions and incentives to encourage users to offload mobile traffic at home, while retaining the ability to provide a unique and differentiated customer experience.
- **Explore new ways to make money from Wi-Fi.** Augment the typical offload business models with new and innovative Wi-Fi business models, such as churn reduction, enhancing retail experiences, managed services, and new, seamless offers.
- **Deliver on the New Mobile.** Align network architectures and deploy appropriate technologies to deliver a seamless, integrated mobile Wi-Fi user experience.

As demand for mobile devices and network connectivity continues to grow, both Wi-Fi and traditional mobile networks will be critical to meeting the needs of mobility-enabled consumers. SPs are in an enviable position of being able to successfully integrate these networks and the experience of their customers to provide what the market wants: New Mobile.

For more information about mobility and SP Wi-Fi, please contact:

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About the Survey

Cisco IBSG conducted an online survey of 1,079 U.S. mobile users in March 2012. The survey base was representative of the U.S. population in terms of age, income level, physical distribution, and employment status. Respondents reported using Wi-Fi in the following locations: home (56 percent), work (20 percent), and public (27 percent). Respondents' home broadband technology consisted of the following: cable (40 percent), DSL (30 percent), and fiber (8 percent). Fifty-eight percent of respondents were employed: full-time (46 percent) and part-time (12 percent). The remaining 42 percent were not employed: stay at home (9 percent), student (9 percent), unemployed (11 percent), and retired (13 percent). Fifty-two percent of respondents described the area in which they live as suburban, while other living environments consisted of urban (23 percent), rural (15 percent), and semi-rural (10 percent).

The study was also undertaken in Brazil, Canada, Mexico, and the United Kingdom.

Acknowledgements

The authors would like to acknowledge the contributions of Andy Noronha to this paper.

Endnotes

1. We use the term "mobile" to represent wireless connectivity over licensed spectrum, based on a cellular architecture.
2. Additional white papers that are part of the Cisco IBSG *Next-Generation Mobile Access* thought leadership series include:
 - a. "What Do Consumers Want from Wi-Fi?: Insights from Cisco IBSG Consumer Research"
 - b. "Profiting from the Rise of Wi-Fi: New, Innovative Business Models for Service Providers"
 - c. "A New Chapter for Mobile?: How Wi-Fi Will Change the Mobile Industry as We Know It"

These papers can be downloaded at:
www.cisco.com/go/ibsg/serviceprovider

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