

The New World of SP Wi-Fi

Cisco IBSG Research Uncovers What Mexican Consumers Want from Wi-Fi and Mobile

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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.

Mexico is definitely part of this global trend. The VNI study predicts that Mexican mobile data traffic will increase 23-fold from 2011 to 2016, a compound annual growth rate of 87 percent. The average mobile connection is predicted to generate 999 megabytes of mobile data traffic per month in 2016, up from 55 megabytes in 2011. Putting it all together, Mexican mobile data traffic will grow two times faster than Mexican fixed IP traffic from 2011 to 2016.

Until recently, most technologists and mobile industry executives viewed Wi-Fi as the “poor cousin” to licensed mobile communications. And they most certainly never imagined any role for Wi-Fi in either mobile networks or mobile industry business models. 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



Cisco Internet Business Solutions Group (IBSG)

To learn more, the Cisco® Internet Business Solutions Group (IBSG) conducted a survey of 769 Mexican mobile users with either a wired or wireless broadband connection 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.

It is important to note that the research was performed on a subset of the Mexican population representing 36 million² Internet users. With 18.5 broadband subscriptions—both wired and wireless—per 100 inhabitants,³ this segment represents a key target segment for Mexican service providers and their mobile data services.

Top 10 Research Findings

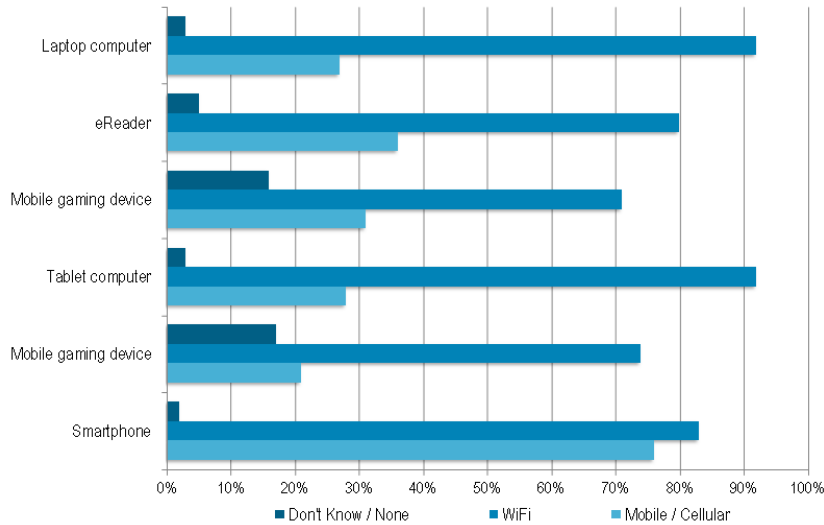
Findings from the Cisco IBSG research will have a powerful impact on the ability of SPs and other companies to take advantage of the explosive growth in mobile devices and the rise of Wi-Fi as an alternative means for connecting them to the Internet. This paper highlights the key research findings and future predictions. Additional details and insights are included in three white papers that are part of Cisco IBSG's *Next-Generation Mobile Access*⁴ thought leadership series. Here are the top 10 overall research findings:

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

People love their mobile devices. Our research shows that 83 percent of Mexican broadband consumers now have laptop computers. Perhaps more significant, our findings show that the number of smartphone users has surpassed that of basic mobile phones: 64 percent own smartphones versus 55 percent who use traditional mobile phones. In just two short years since Apple launched its iPad, 25 percent of Mexican broadband users now own some kind of tablet, and 6 percent also report owning an eReader (Amazon Kindle, Kobo eReader, etc.). On average, a Mexican broadband consumer owns 2.85 mobile devices, which is more than, for example, the typical U.S. broadband consumer, who owns, on average, 2.59 mobile devices.

The remarkable thing is that all of these devices now have Wi-Fi Internet access capabilities. In fact, including smartphones, Wi-Fi is now the predominant access technology for mobile devices, though by a small margin (see Figure 1). More “nomadic” devices, such as laptops, tablets, and eReaders, connect to the Internet almost exclusively through Wi-Fi, with only approximately 30 percent of these devices having any mobile connectivity capability.

Figure 1. With the Exception of Smartphones, Wi-Fi Is the Predominant Access Technology for Mobile Devices.



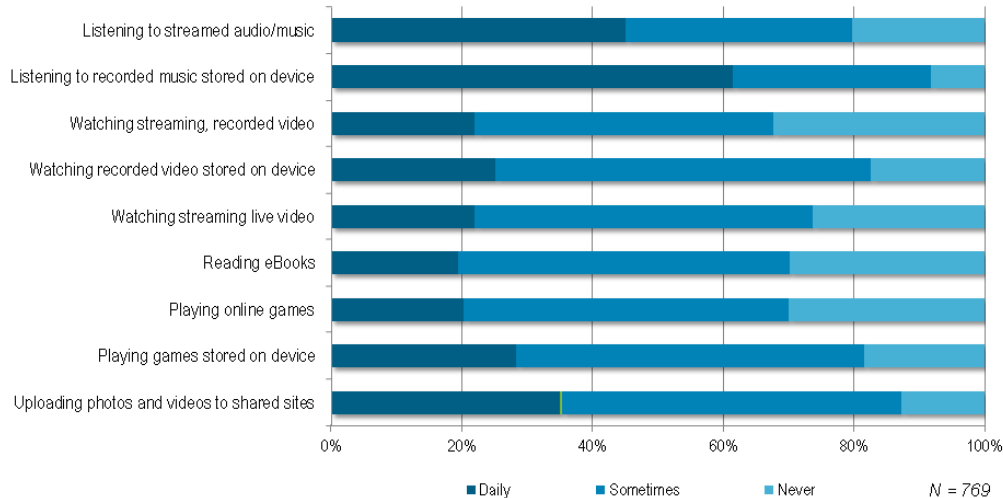
Question: Please describe the wireless capabilities of each of the following devices that you own?

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 using their devices to consume all forms of video, music, books, and games on a daily basis. And, a quarter of all consumers are now reaching for their mobile devices to be entertained by online streaming video and music. 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.



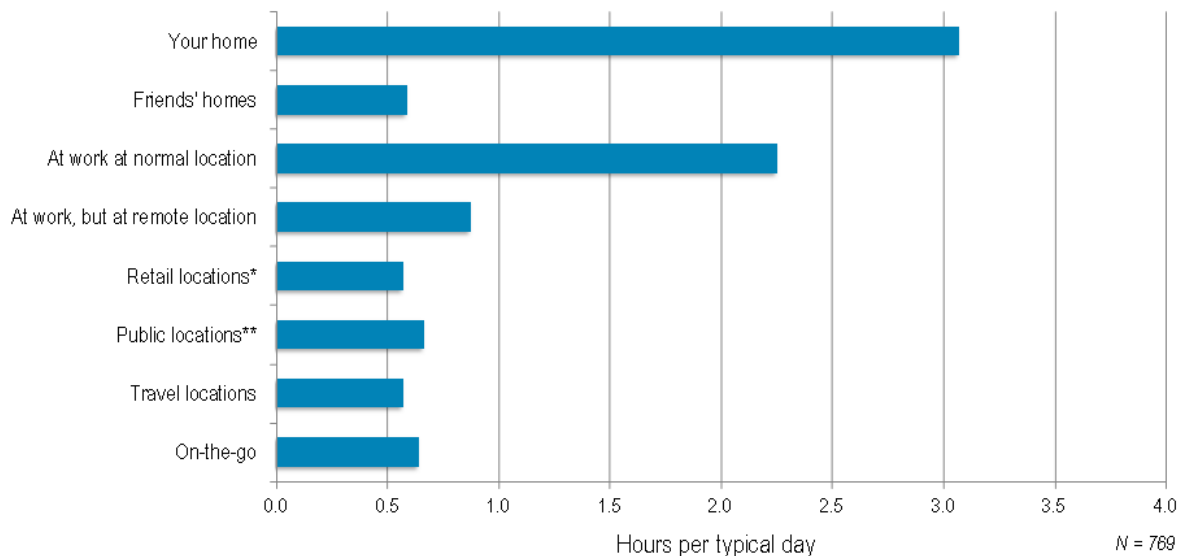
Question: On average, how often do use your mobile devices (e.g., smartphones, tablets, laptops) in each of the following ways?

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 used most of the time. Mobile use has 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 three hours in a typical day—significantly more than the time they spend using them at work. While about 60 percent of people use their devices on the go, the world of mobile devices is changing from a “mobile” on-the-go world (average use of 40 minutes per day) to a “nomadic” world dominated by the home (three hours per day). And, people expect to increase their home use of mobile devices even more, with 65 percent of respondents selecting home as the location where they will increase use of their mobile devices the most, compared with 25 percent of respondents that selected mobile on-the-go.

Figure 3. Average Daily Device Usage by Location: Home Is by Far the Leading Place for Mobile Use.



Question: In a typical day, for how long do you use your mobile devices (smartphones, tablets, laptops) in each of the following locations?

* Retail (stores, restaurants)

** Public (stadiums, parks, schools)

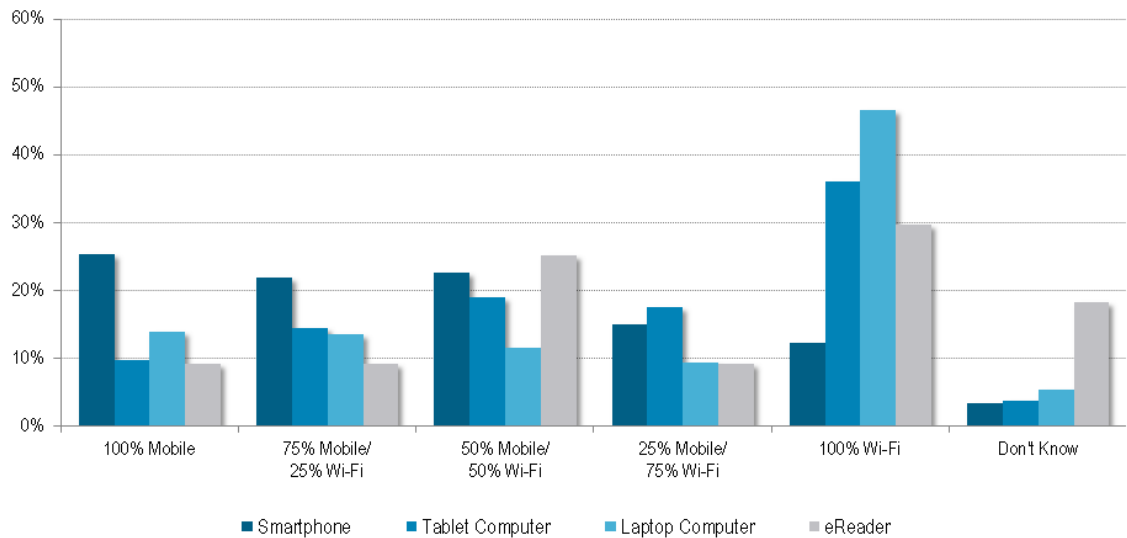
Source: Cisco IBSG, 2012

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 more than 80 percent of smartphone owners. Approximately 45 percent of laptops, 35 percent of tablets, and 30 percent of eReaders are connecting exclusively through Wi-Fi. Although 25 percent of smartphone owners are connected only via the mobile network, the remaining 75 percent are supplementing mobile connectivity with Wi-Fi. In fact, on average, smartphone users use Wi-Fi about 40 percent 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, 87 percent of laptop users and more than 80 percent of tablet and eReader owners would either prefer Wi-Fi to mobile access, or have no preference. And, more than half of smartphone owners would prefer to use Wi-Fi, or are ambivalent about the two access networks.

Figure 4. Most Mobile Users Connect via Wi-Fi at Some Point, Including 70 Percent of Smartphone Owners.



Question: Of all the time you spend using mobile data on each of the following mobile devices, what percent of the time do you use a Wi-Fi network (connected to a wireless router or hotspot at a given location) versus a mobile/cellular network (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, including best coverage (see Figure 5). What is really surprising is the lead that Wi-Fi has over mobile:

- More than 70 percent of users consider Wi-Fi faster and more cost efficient.
- About 60 percent of users believe Wi-Fi is more reliable and offers optimal performance for their applications.
- Despite the technical superiority of cellular mobility in the area of security, people clearly do not make this distinction, as 55 percent believe Wi-Fi is more secure.

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. Wi-Fi Is the Preferred Means of Mobile Network Access Across All Attributes.

Attribute	Mobile/cellular	Wi-Fi	No Difference	N*
Lowest cost	16%	74%	9%	695
Speed of network	19%	71%	9%	708
Best reliability	25%	59%	16%	681
Best performance for my applications	27%	59%	14%	692
Best coverage	42%	51%	7%	710
Most secure	29%	55%	16%	694
Easier to use	28%	57%	15%	722

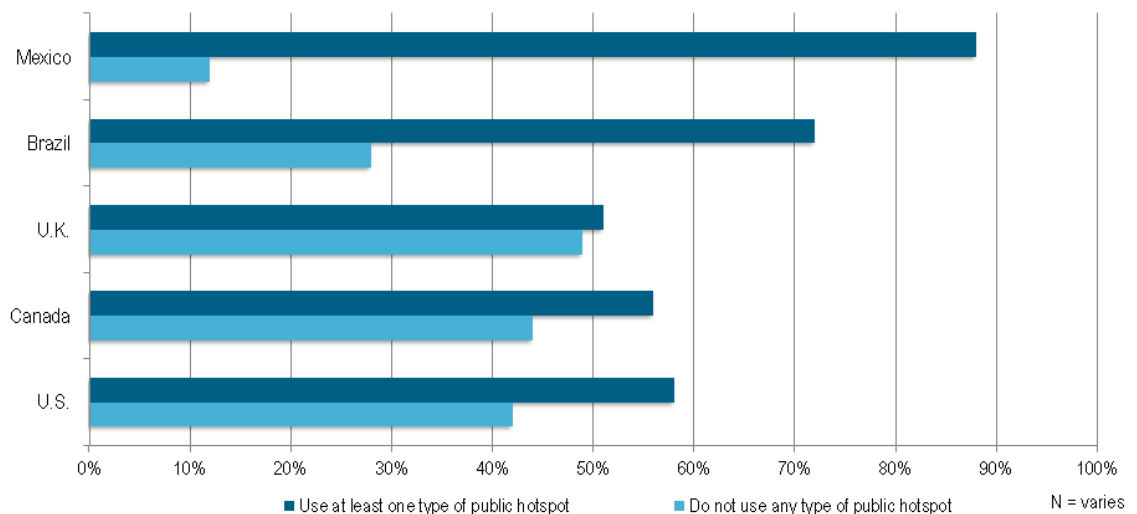
* "Don't Knows" removed from sample.

Question: 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. More than 80 percent of mobile users use a public hotspot at least weekly.

Mobile users are definitely accessing Wi-Fi outside the home and workplace. Compared with their counterparts in other countries where Cisco IBSG performed the study, Mexican users are taking advantage of public hotspots with significantly higher frequency. Eighty-four percent of respondents take advantage of a public hotspot more than once a week from one or more devices. The top locations for these more active users are public outdoors (parks, streets), coffee shops/restaurants, and other locations, such as schools, doctors' offices, and so forth.

Figure 6. The Vast Majority of Mexican Mobile Device Users Use Public Hotspots, Especially Outdoors and in Coffee Shops or Restaurants.

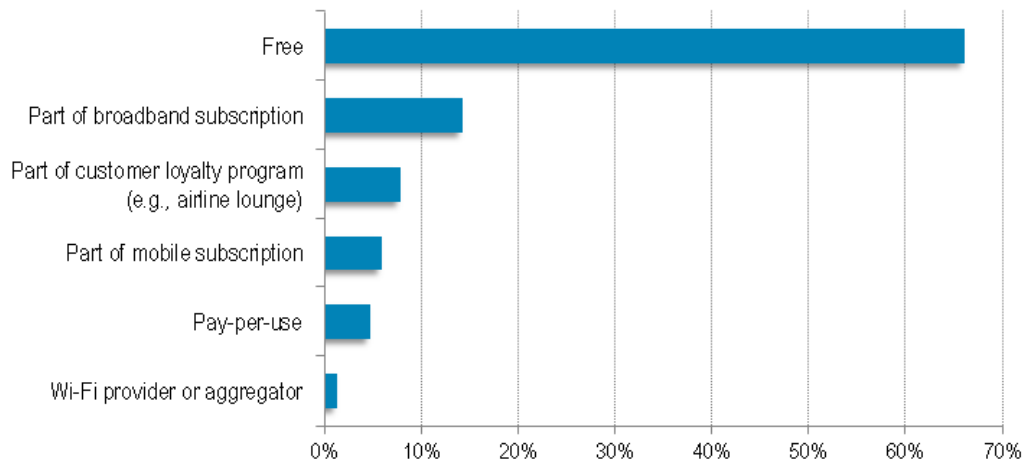
Question: How frequently do you use public Wi-Fi hot spots during a *typical week* in each of the following locations?

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. As shown in Figure 7, two-thirds of regular Wi-Fi users enjoy free access to public hotspots, 14 percent access hotspots as part of their broadband subscription, 6 percent as part of a mobile plan, and 8 percent as part of a loyalty program. Business-expense-account-friendly venues such as hotels and airports are the most popular locations used by the less than 5 percent of regular users who pay for public Wi-Fi access.

Figure 7. Payment for Public Wi-Fi: Mexicans Enjoy Free Access Most of the Time.



Question: When using public Wi-Fi hotspots, how do you most often pay?

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. Three-quarters 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. More than 80 percent of broadband customers indicate that they would be at least moderately likely to switch providers if they were offered free public Wi-Fi, with 64 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. More than 80 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. The biggest perceived benefit was the flexibility of location and coverage, closely followed (unsurprisingly) by lower overall costs, no additional Wi-Fi charges, and unlimited data—signaling the end of uncertainty about overage charges. However, between 15 and 25 percent of people liked the improved performance, 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, Cisco IBSG has identified new ways to make money from Wi-Fi. Specifically, we found a significant level of customer interest in three new, innovative business models:

1. **National/international Wi-Fi roaming:** 85 percent of respondents were either “somewhat interested” (35 percent) or “very interested” (50 percent) in this type of service. The biggest perceived benefits are: 1) lower overall cost; 2) no additional Wi-Fi access charges; 3) no mobile roaming charges.
2. **Secure Wi-Fi access to content stored remotely in a digital locker:** 76 percent of respondents were either “somewhat interested” (41 percent) or “very interested” (35 percent). Not surprisingly, the biggest perceived benefits are all cost-related: 1) lower overall cost; 2) unlimited data; 3) no additional Wi-Fi access charges. Advanced attributes of the service, such as data security/privacy and device flexibility, are much less recognized.
3. **Enhanced in-store shopping experience (for example, product information, mapping, coupons):** 76 percent of respondents were either “somewhat interested” (39 percent) or “very interested” (37 percent). The biggest perceived benefits are: 1) free Wi-Fi access; 2) efficiency while in the store; 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:
 - 70 percent of mobile users will access social networks daily.
 - More than 40 percent of mobile users will watch streamed and recorded videos on a daily basis.
 - Up to one-third of mobile users will read eBooks.
2. **Home will continue to dominate other locations for mobile device use.** In the next two years, more than 40 percent of all mobile device usage will occur in the home.

3. **Devices will also get “out of the house,” with increased use in public spaces.**
In the next two years, 15 percent of all mobile device use will occur in retail and public locations, and about 10 percent of usage will be done “on-the-go.”
4. **Wi-Fi will become the predominant access technology for smartphones.**
Within the next two years:
 - More than 80 percent of smartphones will regularly use Wi-Fi.
 - Smartphone owners will use Wi-Fi more than 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, 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.

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About the Survey

Cisco IBSG conducted an online survey of 769 Mexican mobile users in July 2012. The survey base was representative of the Mexican population of broadband Internet users in terms of age, income level, physical distribution, and employment status. This segment represents 31 percent of the total population (according to COFETEL there were 36 million Internet users in Mexico in 2011, predicted by Cisco's VNI to grow to 61 million in 2016). These users deviate from the general Mexican population in that they are slightly more "urbanized" (urbanites made up 87 percent of the sample, compared to the national average of 79 percent), are younger, and have a higher average income level, better education, and better employment situation.

Respondents reported using Wi-Fi in the following locations: home (69 percent), work (45 percent), and public (43 percent). Respondents' home broadband technology consisted of the following: DSL (51 percent), cable (30 percent), and fiber (7 percent). Sixty-nine percent of respondents were employed: full-time (49 percent) and part-time (20 percent). The remaining 31 percent were not employed: stay at home (8 percent), student (13 percent), unemployed (7 percent), and retired (2 percent). Eighty-five percent of respondents described the area in which they live as urban, while other living environments consisted of suburban (7 percent), rural (3 percent), and semi-rural (3 percent).

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

Acknowledgements

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

Endnotes

1. We use the term "mobile" to represent wireless connectivity over licensed spectrum, based on a cellular architecture.
2. COFETEL, 2011.
3. Organisation for Economic Co-operation and Development (OECD), 2011.
4. 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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