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Mobile Broadband Helps Bridge the Gap in Internet Utilization across South Carolina

March 2013

Mobile broadband is growing in popularity as Americans learn more about the benefits and ease of being able to access the Internet while on the go. Mobile broadband is reshaping the way in which we live, learn, and work. We are able to use it to communicate, access powerful educational tools, research ways to make us healthier, and search for jobs, all without the tether of a desktop computer. For many, mobile broadband has become the primary or only method of accessing the Internet.

In a 2012 study conducted by the Pew Internet and the American Life Project, 88% of U.S. adults own a cell phone of some kind, and more than half of these cell phone owners (55%) use their phone to go online.[1] According to the Brookings Institute's research, smart phone usage has surpassed that of personal computers, and by 2015, it is estimated approximately 3.1 billion people will subscribe to mobile broadband service compared to fixed broadband subscription of 848 million worldwide.[2] More importantly, mobile broadband is also expected to be a major contributor to job creation and economic development throughout the nation. According to Deloitte, U.S investment in 4G technology could generate more than $73 billion in GDP growth and up to 771,000 new jobs by 2016.[3]

Connect South Carolina conducted a survey in 2012 to better understand the landscape of mobile broadband adoption and usage across the state of South Carolina. Our study finds that while a small share of mobile users rely exclusively on their mobile Internet service, most treat their mobile broadband as a complement to their other broadband options.

Mobile Usage in South Carolina

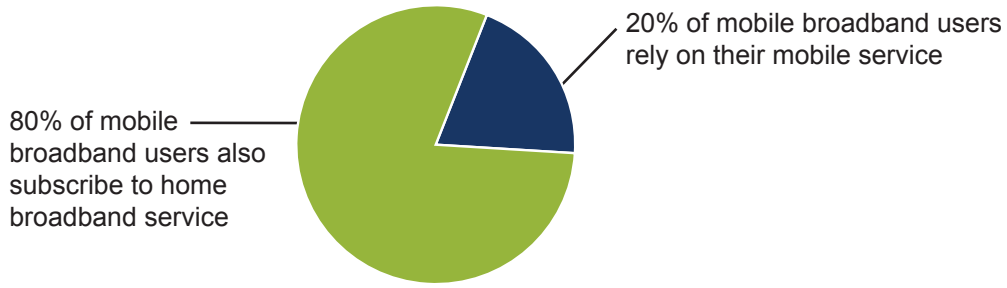
Across the state of South Carolina, over one-half of residents age 18 or older (51%) access the Internet via cell phones or subscribe to mobile wireless service via a laptop or tablet. This represents approximately 1.8 million South Carolina adults who go online via their cell phones or through a mobile device. This is significantly higher than the mobile usage rate of 39% in 2011.

Four out of five mobile users (80%, representing nearly 1.5 million South Carolina adults) also subscribe to home broadband service, while 20% (approximately 366,000 South Carolina adults) only access the Internet via mobile broadband (Figure 1). This indicates that the majority of mobile users still rely on home broadband service to take full advantage of broadband.

Among the findings from this survey:

- Across the state of South Carolina, **over one-half** of residents age 18 or older **(51%)** access the Internet via cell phone or subscribe to mobile wireless service via a laptop or tablet. This represents approximately **1.8 million** South Carolina adults who use mobile broadband.
- **Four out of five** mobile broadband users say that they also subscribe to home broadband service. Among these residents, nearly **three out of four** still use their home broadband service as often as they did prior to subscribing to mobile broadband service.
- South Carolina adults age 18-34, as well as African Americans in the state, are **more likely to subscribe** to mobile broadband service than home broadband.
- When asked why they decided to subscribe to Internet service on their cell phones, **more than one in four** subscribers in South Carolina **(28%, representing approximately 491,000 adults)** reported that they wanted to be able to go online when they were away from home.
- Even though rural South Carolina residents are **less likely** than urban residents to subscribe to mobile broadband service, those who do subscribe to mobile service are more likely to access a variety of online applications. For example, **56%** of rural adults who access the Internet via their cell phones go online to research or purchase goods and services, which is much higher than their non-rural peers.

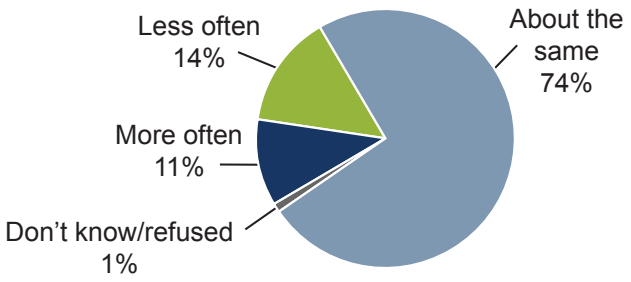
Figure 1.
Technology Adoption among Mobile Users



1 http://pewinternet.org/Reports/2012/Cell-Internet-Use-2012/Key-Findings.aspx
2 http://www.brookings.edu/research/papers/2011/12/08-mobile-broadband-west#_ednref4
3 Deloitte, "The Impact of 4G Technology on Commercial Interactions, Economic Growth, and U.S. Competitiveness," August, 2011, p. 1, http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/TMT_us_tmt/us_tmt_impactof4g_081911.pdf

Furthermore, when asked about their home broadband usage since subscribing to mobile broadband service, only 14% who subscribe to both home broadband and mobile broadband on their cell phone said they now use their home broadband service less often (Figure 2). While nearly three out of four South Carolina residents say they still use their home broadband service at "about the same" rate as they did before subscribing to mobile broadband service, one in nine (11%) report that they use their home broadband service more often than when they did not have mobile service.

Figure 2.
Use of Home Broadband Service
Since Subscribing to Mobile Service



Mobile Adoption by Demographic

Mobile broadband usage varies across different socio-economic groups. Individuals who have traditionally been more likely to subscribe to home broadband service are similarly more likely to use mobile broadband service (Table 1). Residents with higher education levels and incomes, as well as younger South Carolina adults, are more likely to subscribe to mobile broadband service. Indeed, South Carolina adults age 18-34, as well as African Americans in the state, are more likely to subscribe to mobile broadband service than home broadband.

Mobile Internet Adoption on a Cell Phone

Statewide, nearly 3.1 million South Carolina adults (86% of residents age 18 or older) own a cell phone, and the majority of those cell phone owners (56%, or approximately 1.7 million residents) subscribe to a mobile Internet service that allows them to access the Internet on their cell phones.

When asked why they decided to subscribe to Internet service on their cell phones, more than one in four subscribers in South Carolina (28%, representing approximately 491,000 adults) reported that they wanted to be able to go online when they were away from home (Table 2). For many, the acquisition of a cell phone got them connected to mobile broadband, either because the mobile service was automatically included in their contracts or they purchased a phone that had the capability of accessing the Internet.

Table 1.
Broadband Adoption by Demographic

Demographics	Mobile Broadband	Home Broadband
Statewide	51%	66%
Employment		
Employed	68%	81%
Not employed	33%	51%
Educational Attainment		
No high school diploma	30%	27%
High school graduate	41%	48%
Some college	52%	72%
Bachelor degree	63%	84%
Advanced degree	65%	86%
Presence of Children		
Households with children at home	66%	76%
Households with no children	42%	60%
Annual Household Income		
Less than $25,000	31%	36%
$25,000 to less than $35,000	40%	63%
$35,000 to less than $50,000	59%	74%
$50,000 to less than $75,000	61%	82%
$75,000 or more	75%	91%
Age		
18 to 34	72%	65%
35 to 44	61%	78%
45 to 54	55%	79%
55 to 64	37%	67%
65 or older	16%	41%
Geography		
Rural	46%	56%
Non-Rural	53%	69%
Race/Ethnicity		
Caucasian	52%	71%
Black or African American	51%	50%
Other Minority	50%	53%

Table 2.
Main Reasons to Subscribe to Internet Service on Cell Phones

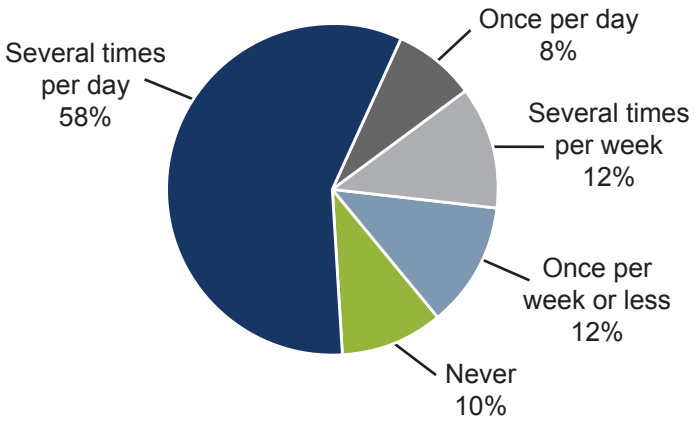
You wanted a way to access the Internet while away from home	28%
Mobile Internet service was automatically included with your cell phone contract	21%
You purchased or received a cell phone that could access the Internet	16%
You needed mobile Internet service for your work	11%
You wanted to use your cell phone to access the Internet at home	5%
A friend or family member convinced you	4%
Mobile Internet service now costs less than it used to	3%
You learned about an application you could use on your cell phone	3%
Mobile Internet service is less expensive than home broadband service	2%
You learned that faster mobile Internet service became available in your area	1%

In addition, just over one out of ten cell phone Internet subscribers (11%) said they need mobile Internet service for their work. This represents 185,000 South Carolina adults. Only one in twenty South Carolina adults say their main reason for subscribing to mobile Internet service was to access the Internet at home, meaning that few consider mobile Internet service a substitute for having a home broadband subscription.

Mobile Internet Usage on a Cell Phone

Nearly three out of five South Carolina adults (58%, representing nearly 999,000 South Carolina adults) say they go online via their cell phone several times per day (Figure 3). On the other end of the usage spectrum, one in ten residents age 18 or older who subscribe to a mobile broadband service on their cell phone (10%) never use their subscription. That means that approximately 189,000 South Carolina residents pay for mobile Internet service but do not take advantage of it.

Figure 3.
How Often Mobile Internet Subscribers
Go Online Using their Cell Phones



Among the 1.5 million South Carolina adults who use the Internet on their cell phones, more than three out of four say they do so to communicate through e-mail or other ways of sending messages, while nearly two out of three (65%) use social networking sites such as Facebook (Table 3). Other applications, such as e-Health applications, searching and applying for jobs, taking online classes or conducting research for school, and interacting with government offices or elected officials are used much less often.

Table 3.
Mobile Application Usage via Cell Phones

Online Applications	Statewide	Rural	Non-Rural
Communicating through e-mail or other ways of sending messages	78%	81%	77%
Using social networking sites like Facebook	65%	66%	65%
Exploring or participating in hobbies or personal interests	56%	56%	56%
Researching or purchasing goods or services	49%	56%	47%
Reading online newspapers or other news sources	47%	57%	45%
Online banking or paying bills	38%	43%	37%
Searching for medical information, or communicating with doctors or other healthcare professionals	28%	30%	27%
Searching or applying for jobs	16%	21%	14%
Taking online classes or conducting research for schoolwork	13%	17%	11%
Interacting with government offices or elected officials	12%	12%	12%

However, mobile broadband via cell phones offers important advantages for those in rural South Carolina, where people are more likely to suffer from limited Internet access. In fact, even though rural South Carolina residents are less likely to subscribe to mobile broadband service, those who do subscribe to mobile service are more likely to access a variety of online applications. For example, 56% of rural adults who access the Internet via their cell phones go online to research or purchase goods or services, which is much higher than 47% among non-rural peers. Similar differences can be seen in the usage of online applications like e-Learning and online job applications. This indicates that mobile broadband can help South Carolina bridge the rural gap in Internet utilization, and enable rural residents to participate in the digital economy.

Mobile Broadband Makes the Internet Accessible to More South Carolina Residents

Mobile broadband service makes the Internet available to South Carolina residents who have disabilities that might make it more difficult for them to use a desktop computer. Statewide, 35% of adults with disabilities report that they subscribe to mobile broadband service. In addition, mobile applications that are designed to help residents with disabilities make it easier for all South Carolina residents to benefit from broadband.

“Mobile broadband usage isn’t just a means to the end of being tethered to a desk and chair,” said Sandy Hanebrink, executive director of the South Carolina non-profit Touch the Future. “In fact, the connotation is much more to individuals with disabilities; it is a way to communicate, to participate in society, to become independent. It is freedom.”

Touch the Future provides affordable computers, durable medical equipment, and other assistive technology to individuals who are disabled, seniors, veterans, or who live in disadvantaged communities. The organization is working on a variety of tools to help technology be more accessible and useful for individuals with disabilities. This includes its “BlueAssist” project and its complementary smartphone app called “Cloudina” that helps individuals communicate and engage with individuals with disabilities. These applications help individuals who have disabilities have more independence and participate in society more easily.

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Executive Director, Touch the Future

"We hope this innovation will bridge the gap to mainstream and become universally accepted," Hanebrink said, "much like mobile broadband has opened doors for communication for the deaf community with mainstream use of texting, and like the blue wheelchair symbol has become known globally for accessibility. The evolution of mobile technologies is huge for different disability populations. BlueAssist is completely changing the lives of users and becoming the global symbol for assistance. None of this would be possible without mobile broadband."

Conclusions

Approximately 1.8 million South Carolina adults use a mobile Internet connection to conduct a variety of activities. This represents a significant increase in mobile broadband usage compared to 2011. For most of these residents, mobile broadband is seen as a complement to their home broadband service. But that is changing, as younger adults and African Americans in South Carolina are more likely to subscribe to mobile broadband than home broadband service.

Mobile broadband service is being used often, and for a variety of applications. Nearly three out of five mobile subscribers (58%) are power users, using it several times per day, and the majority of them use their mobile broadband to stay in touch through e-mails, texting, or social networks. Furthermore, rural South Carolinians are more likely to use mobile broadband to go online for important applications compared to non-rural counterparts, such as online shopping, job applications, and e-Learning. This suggests for those who cannot afford home broadband subscription today, mobile broadband could be an alternative way to access the Internet.

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Methodology

Between September 29 and November 1, 2012, Connect South Carolina conducted a random digit dial telephone survey of 1,200 adult heads of households across the state. Phone numbers were chosen randomly, with area codes and telephone prefixes determined by geography per the North America Numbering Plan (NANP), with the last four digits of the telephone numbers randomly selected. Of the 1,200 respondents randomly contacted statewide, 200 were called on their cellular phones, and 1,000 were contacted via landline telephone. Once the respondent agreed to participate, these surveys took approximately 10 minutes to complete.

Multiple attempts were made to reach an adult at each working telephone number on different days of the week and at different times of the day to increase the likelihood of contacting a potential respondent. To ensure that the sample was representative of the state's adult population, quotas were set by age, gender, and county of residence (rural or non-rural), and the results were weighted to coincide with 2010 United States Census population figures.

For the purpose of setting quotas and weighting, "rural" respondents are defined as living in a county that is not a part of a Metropolitan Statistical Area (MSA), as designated by the United States Office of Management and Budget. Surveys were conducted by Thoroughbred Research Group, located in Louisville, KY, in English. Based on the effective sample size of 921, the effective post-weighting margin of error = $\pm$ 3.23% at a 95% level of confidence for the statewide sample. As with any survey, question wording and the practical challenges of data collection may introduce an element of error or bias that is not reflected in this margin of error.

Rim weighting was applied to correct for minor variations and ensure that the sample matches the most recent U.S. Census estimates of the state's population by age, gender, and urban/rural classification of the respondent's county of residence. Weighting and research consultation were provided by Lucidity Research, LLC. The survey results were subsequently reviewed by an expert from Clemson University in South Carolina.

This residential survey was conducted as part of the State Broadband Initiative (SBI) grant program, funded by the National Telecommunications and Information Administration (NTIA). The SBI grant program was created by the Broadband Data Improvement Act (BDIA), unanimously passed by Congress in 2008 and funded by the American Recovery and Reinvestment Act (ARRA) in 2009.

Definitions

Technology Adoption Definition

1. Broadband adopters are defined as respondents who answered "yes" when asked "Do you subscribe to the Internet at home?" and answered "broadband or high speed Internet service" when asked "Which of the following describe the type of Internet service you have at home?"
2. Mobile broadband users are defined as respondents who met any of the following criteria:
   - Responded that they use a cell phone to access the Internet while at home when asked "When you are at your home, which of the following devices do you use to access the Internet?" or
   - When asked "At what locations outside of your own home do you use the Internet?" responded "Through a cell phone or handheld device" or
   - Responded "yes" when asked "On your laptop or tablet computer, do you subscribe to a mobile wireless service that allows you to access the Internet through a cellular network?" or
   - Responded "yes" when asked "On your cell phone, do you subscribe to a plan that allows you to access the Internet?" and reported that they access the Internet via their cell phone when asked "How often, if ever, do you go online using your cell phone?"
3. Rural Classification: The U.S. Census Bureau uses an urban-rural classification based on Metropolitan Statistical Areas (MSAs), which are designated by the United States Office of Management and Budget to collect, tabulate, and publish federal statistics. Metropolitan statistical areas contain a core urban area with a population of 50,000 or more. Each MSA also includes one or more counties that have a high degree of social and economic interaction with the urban core. When classifying urban, suburban, and rural counties, we follow the Census Bureau definition whereby counties are categorized as "urban" if they contain the core city of an MSA. "Suburban" counties are MSA counties that do not contain a core city, and "rural" counties include all remaining counties that are not part of an MSA.

APPENDIX A:

Select Sample Sizes

Groups	Sample Sizes
Total sample size	1,200
Mobile broadband users	562
Cell phone owners who have a plan allowing the Internet access on cell phones	532
Sample sizes by demographic	**Sample sizes**
Employment	
Employed	596
Not employed	570
Educational Attainment	
No high school diploma	111
High school graduate	287
Some college	298
Bachelor degree	335
Advanced degree	137
Presence of Children	
Households with children at home	402
Households with no children at home	766
Annual Household Income	
Less than $25,000	273
$25,000 to less than $35,000	118
$35,000 to less than $50,000	133
$50,000 to less than $75,000	161
$75,000 or more	301
Age	
18 to 34	186
35 to 44	197
45 to 54	290
55 to 64	310
65 or older	217
Geography	
Rural	398
Non-Rural	802
Race/Ethnicity	
Caucasian	856
Black or African American	241
Other Minority	298