

Broadband & Business

Leveraging Technology
in Puerto Rico to
Stimulate Economic
Growth



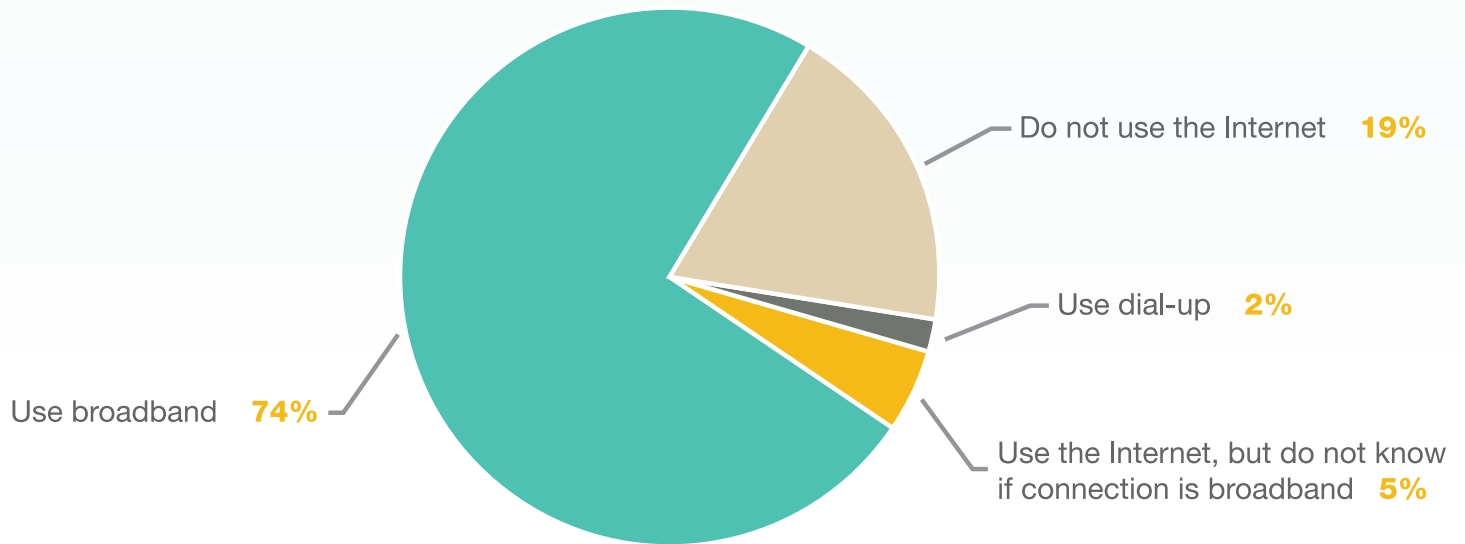
Broadband is the Engine of Economic Growth in Puerto Rico

Broadband is a powerful, enabling technology that is fast becoming an engine of economic growth. Increasingly, businesses seeking to open or expand operations look to see not only whether a community has robust broadband access, but also whether potential workers have digital literacy skills and tools. The economic future of communities in Puerto Rico depends not only upon whether robust broadband infrastructure is present but also whether businesses and individuals fully utilize that technology to grow and develop local economies.

- **12,000** Puerto Rico businesses (est.) do not use broadband
- Broadband-connected businesses in Puerto Rico bring in **\$200,000** more in median annual revenues

To better understand these relationships, Connect Puerto Rico is studying how businesses use broadband, and broadband's impact on Puerto Rico's business landscape. In this report, we present the results of a telephone survey of 814 business establishments in Puerto Rico that measured business broadband adoption, examined the use of broadband technology by those businesses, and assessed the price and quality of broadband service that Puerto Rico businesses purchase. The results are somewhat surprising.

Technology Adoption



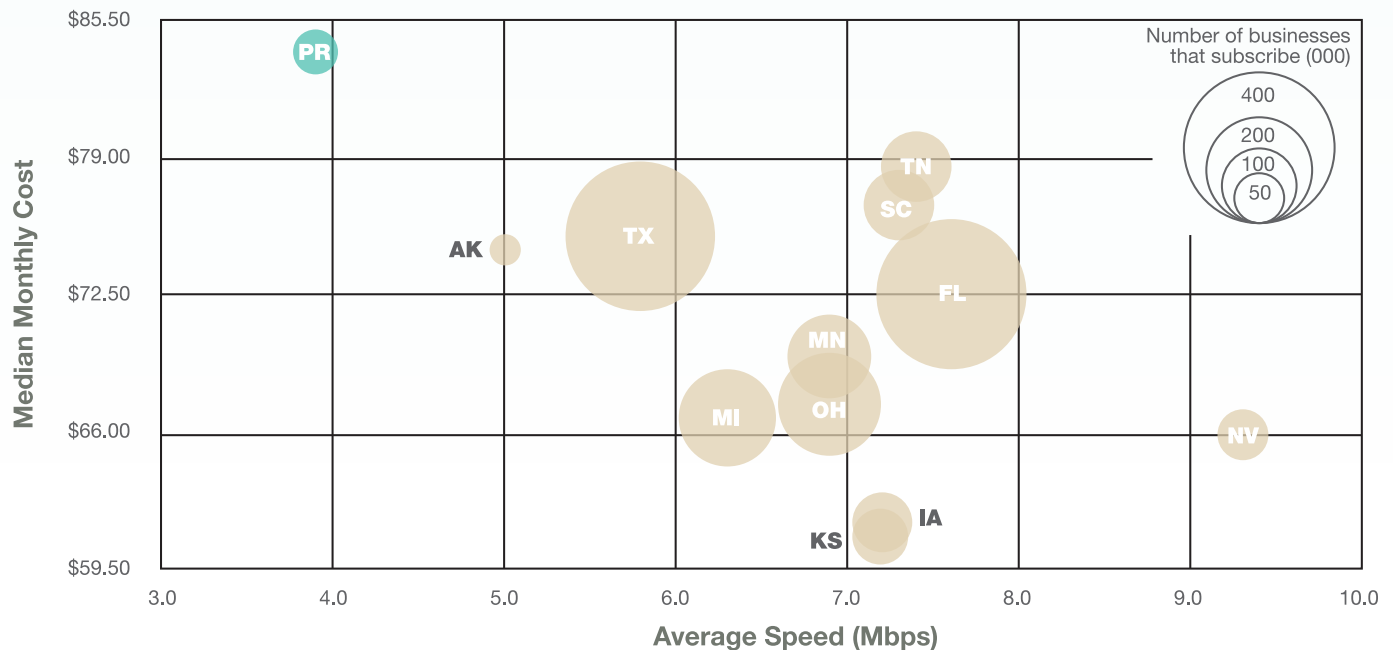
KEY FINDINGS OF THE PUERTO RICO BUSINESS TECHNOLOGY ASSESSMENT

- Approximately 12,000 businesses in Puerto Rico still do not use broadband technology
- Adoption in crucial supply-chain sectors such as the Wholesale, Warehouse, and Transportation sector trails even further – one-third of all Puerto Rico firms in this sector still do not use broadband
- Puerto Rican firms that use broadband have significantly increased revenues, with the median annual revenues of broadband-connected Puerto Rico businesses being \$200,000 per year higher than those without broadband
- Puerto Rican businesses pay a median monthly price of \$83.93 for their broadband service, but the higher prices do not reflect higher speeds. The average download speed (3.9 Mbps) among businesses in Puerto Rico is significantly lower than average among all businesses in states/territories served by Connected Nation
- Approximately 6,000 Puerto Rican businesses allow their employees to telework, making it easier for more individuals to join the workforce

Puerto Rico Businesses Pay Higher Prices for Broadband

Puerto Rico businesses pay more than average for their broadband connections, while their download speeds are much lower than average.

Puerto Rican businesses pay a median monthly price of \$83.93 for their broadband service, which is considerably higher than the median price of \$71.92 paid by all businesses in states/territories served by Connected Nation.



Puerto Rican businesses also tend to subscribe to lower-than-average broadband speeds. Puerto Rican businesses that know their advertised download speeds report an average speed of 3.9 Mbps, which is significantly lower than the average advertised download speed of 6.7 Mbps among all states and territories served by Connected Nation.



26% of Puerto Rico Businesses Do Not Use Broadband

While nearly three out of four Puerto Rico businesses use broadband, some sectors still lag behind in broadband adoption.

Increasing broadband adoption among Puerto Rican businesses will require a concerted effort between the public and private sector. Over the next three years, Connect Puerto Rico will be educating, engaging, and informing businesses, community anchor institutions such as schools, libraries, and healthcare centers, and community leaders about the broadband challenge facing their communities – and we will help those communities devise and implement grass-roots solutions to those challenges.

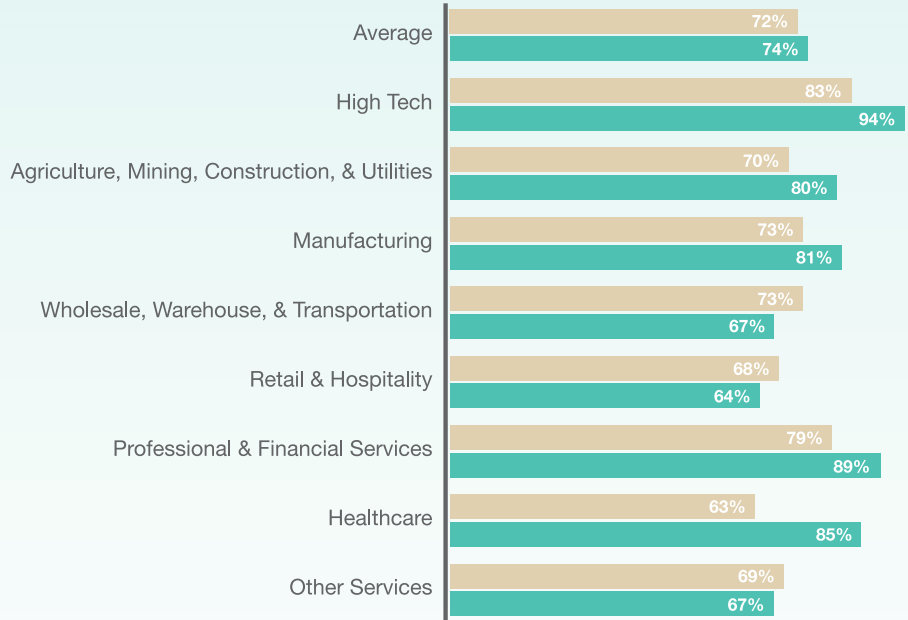
Across the Commonwealth of Puerto Rico, 74% of all businesses subscribe to broadband, compared to 72% of businesses in all states and territories served by Connected Nation. This means that approximately 12,000 Puerto Rican business establishments do not use broadband or benefit from the opportunities it offers.

The Professional and Financial and High Tech sectors lead in broadband adoption, with approximately 6,000 businesses in the Professional & Financial Services sector and 2,000 businesses in the High Tech sector using broadband. On the other extreme, only 64% of businesses in the Retail & Hospitality sector use broadband, which means about 6,000 Retail & Hospitality-related businesses do not subscribe.

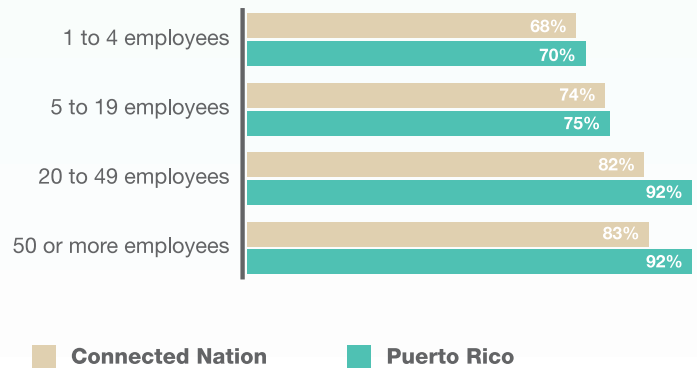
Broadband adoption rates in Puerto Rico mirror those in other Connected Nation states by size and industry sector, with no significant differences between Puerto Rico businesses and the average for each industry sector and size bracket.

Broadband Adoption

by sector:



by business size:



■ Connected Nation ■ Puerto Rico

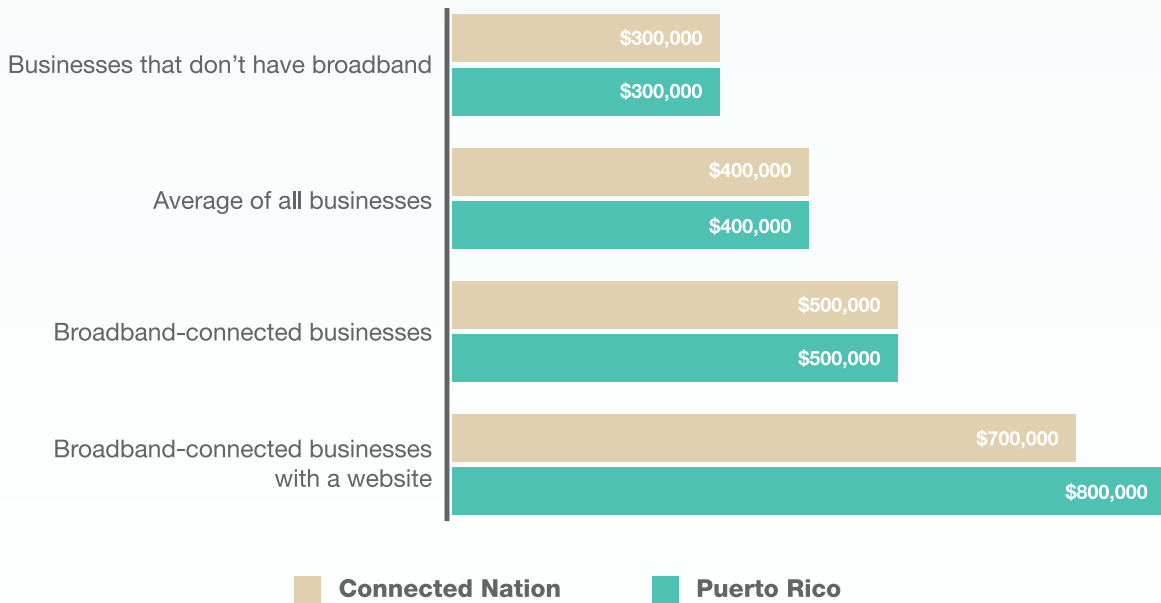


Businesses with Broadband Generate More Revenues

The impact of broadband on Puerto Rican businesses can be seen in the difference in revenues between businesses with and without broadband, the number of businesses that increase their revenues by using the Internet, and the number of businesses that empower their employees to telework.

Across Puerto Rico, businesses that subscribe to broadband report median annual revenues that are \$200,000 higher than businesses that do not use broadband. In addition, Puerto Rico businesses that subscribe to broadband and maintain a website report median annual revenues that are \$500,000 higher than businesses that do not use broadband at all. Puerto Rican businesses with and without broadband report annual revenues that are comparable to their competitors in other states and territories served by Connected Nation.

Median Annual Revenues (Self-Reported)

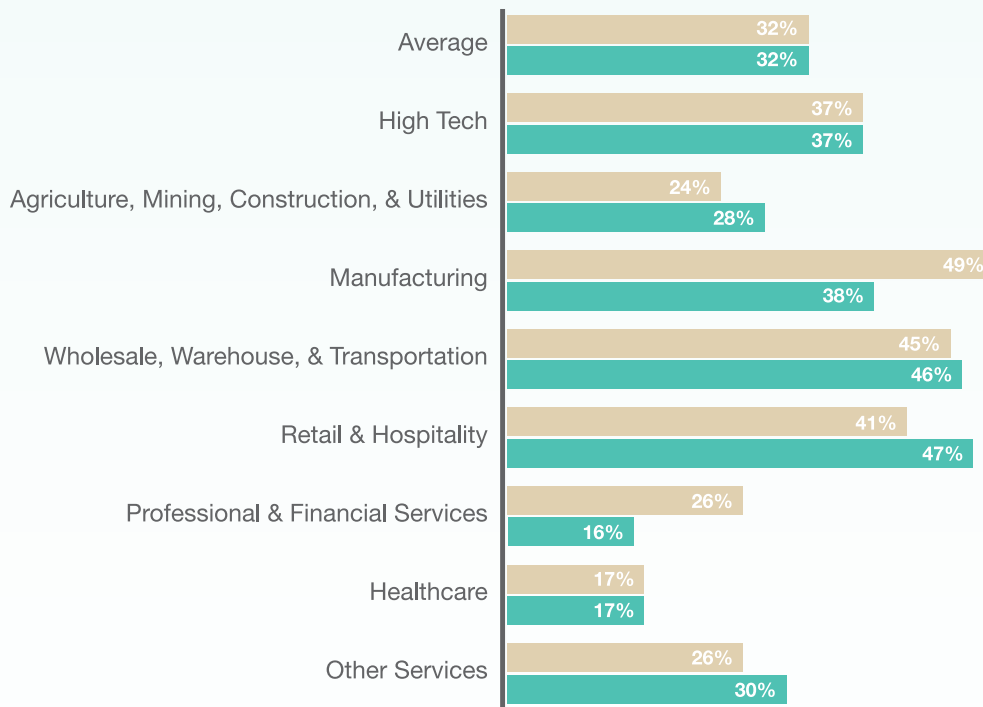




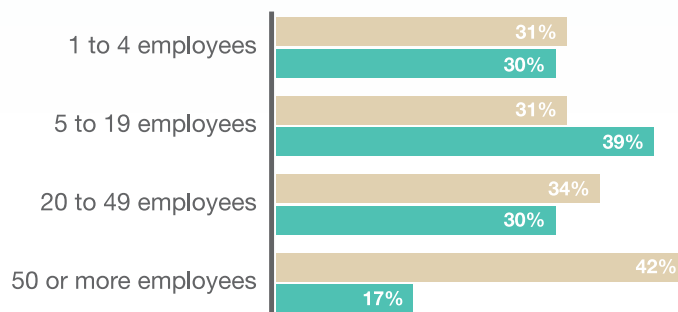
Territory-wide, 32% of Internet-connected businesses in Puerto Rico (approximately 12,000 Puerto Rican businesses) report earning revenues through online sales and transactions, compared to the Connected Nation average of 32%. In Puerto Rico, this includes approximately 1,000 businesses in the Wholesale, Warehouse, and Transportation sector and 5,000 businesses in the Retail & Hospitality sector.

Internet-Connected Businesses That Earn Revenues From Online Transactions

by sector:



by business size:



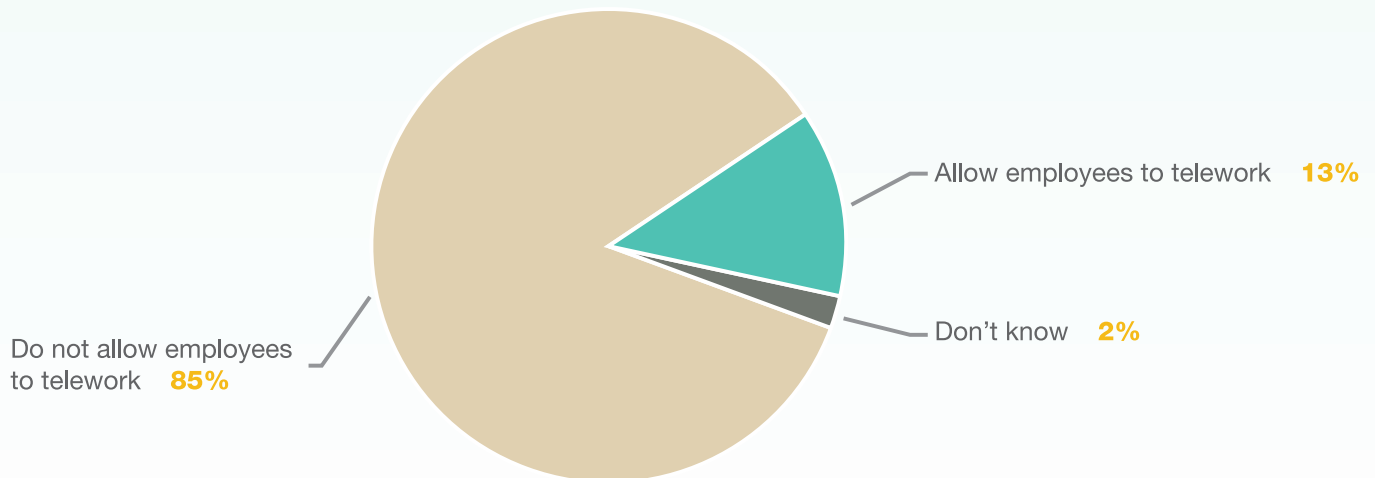
■ Connected Nation ■ Puerto Rico

Puerto Rican Businesses Use Broadband in Unique Ways

Puerto Rican businesses use technology in ways that make the territory stand out and highlight ways that the territory’s unique character has influenced its workforce. For example:

- Nearly seven out of ten (69%) Internet-connected businesses utilize online banking. This is the most-cited use of the Internet among businesses in Puerto Rico.
- Many Puerto Rican businesses are new broadband adopters, as Puerto Rican businesses are significantly more likely than average to say they began using broadband less than a year ago.
- Among small Puerto Rican businesses (those with fewer than five employees), businesses that sell goods or services online report that over one-third (36.3% on average) of their sales revenues come from online transactions.
- In addition, broadband helps empower Puerto Rico’s workforce by enabling workers to telework. Across Puerto Rico, 13% of businesses (approximately 6,000) allow employees to telework. By comparison, 23% of businesses in states/territories served by Connected Nation allow their employees to telework.

Teleworking Among Puerto Rico Businesses



Survey Methodology

Connect Puerto Rico conducted a random digit dial telephone survey of 814 business establishments territory-wide between August 5 and September 3, 2010. Data were collected by Estudios Tecnicos, located in San Juan, PR. The purpose of this survey was to set benchmarks for technology adoption and barriers to adoption; determine best practices by identifying which applications Puerto Rican businesses use most often; and measure the average price and speed of broadband service among business establishments across Puerto Rico. On average, these surveys took approximately nine minutes to complete.

Sample quotas were established by company size (5 brackets) and industry sector (8 sectors). Within these 40 cells, a randomly-drawn sample of businesses listed with Dun & Bradstreet were contacted for the survey. Altogether, this sample included 180 businesses with 50+ employees, 196 businesses with 20-49 employees, 226 businesses with 5-19 employees, and 212 businesses with 1-4 employees. In cases where the respondent's information regarding the number of employees at the establishment differed from the information provided by Dun & Bradstreet, the respondent's answer was used in determining business size quotas. Connect Puerto Rico intentionally over-sampled large businesses to ensure a sample that was large enough to analyze and compare to smaller businesses.

In addition to the size and sector quotas, the data was subsequently weighted to ensure that the sample was representative of all employer business establishments territory-wide, with targets determined according to the 2007 United States Census Bureau's County Business Pattern report, the most recent data that was available at the time the survey was conducted. Weighting of the survey data and research consultation were provided by Lucidity Research LLC, located in Westminster, MD.

This sample provides a margin of error of $\pm 5.1\%$ at the 95% confidence level for the total sample of 814 businesses. This sample error accounts for sample weighting, using the effective sample size.

The Puerto Rico Business Technology Assessment was conducted as part of the State Broadband Data and Development (SBDD) grant program, funded by the National Telecommunications and Information Administration (NTIA). The SBDD 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.

If you have any questions or would like further information about Connect Puerto Rico, please visit our website at www.connectpr.org or e-mail us at info@connectpr.org.

