



CONNECTED
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Digital Workforce Skills and Tennessee Businesses



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In today's competitive business world, technical skills are crucial for most jobs.¹ Many jobs that once required a steady hand and strong muscles now require the ability to operate a computer. Business meetings that once cost thousands of dollars in travel now can be conducted at a fraction of that cost through videoconferencing. As even greater savings are able to be found through technology, employers are increasingly in need of employees with the necessary digital workforce skills.

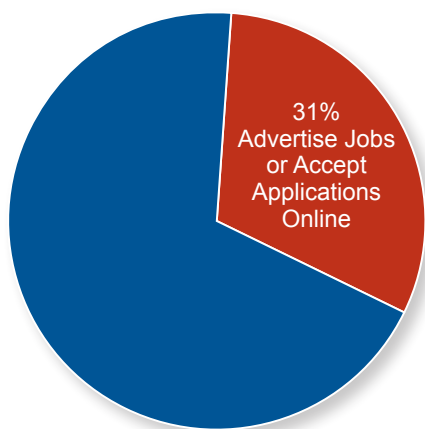
So, how are Tennessee businesses using technology to operate more efficiently, and what types of skills are they looking for when they hire a new employee? To address these questions, Connected Tennessee conducted a business technology survey in 2013 and found that while Tennessee businesses are using broadband technology for a variety of uses, there is still a need to promote digital literacy training in the state to make sure that Tennessee workers have the skills needed to compete in today's workforce.

Online Hiring among Tennessee Businesses

Online hiring is essential in today's competitive economy. In addition to saving time and money for both employers and job-seekers, broadband allows employers to hire the right candidate from an even wider pool of candidates - in fact, more than three out of four unemployed Tennessee Internet users (78%) say they go online to find jobs online.²

According to Connected Tennessee's latest business survey results, nearly one in three Tennessee businesses (31%) accept applications or advertise job openings online (Figure 1). This translates into approximately 40,000 businesses in the state, including about 3,000 businesses statewide that only accept applications via the Internet. At the same time, nearly one-third of Tennessee households (32%) do not subscribe to broadband at home, making it more difficult for these job-seekers to search out and find jobs that are available in the state.³

Figure 1.
Tennessee Businesses that Advertise Jobs
or Accept Job Applications Online



Among the findings from this report:

- The Internet is important in helping Tennessee workers and businesses connect – **more than three out of four** unemployed Tennessee Internet users (**78%**) go online to find jobs, while **more than three out of ten** Tennessee businesses (**31%**) use the Internet to advertise job openings or accept job applications.
- More than **seven out of ten** Tennessee businesses (**71%**) say it is “important” or “very important” for potential employees to have digital skills like the ability to send or receive e-mail or to use word processing software.
- **One in ten** Tennessee businesses needs employees to be able to write software, while one in twelve say new employees need to be able to create mobile applications or “apps.”
- **Two out of five** Tennessee businesses (**40%**) say it is “difficult” or “very difficult” to find employees with the necessary technical skills.
- Many Tennessee businesses see the benefit of using technology to stay competitive while attracting and retaining skilled employees. **Three out of ten** Tennessee businesses allow their employees to telework, while nearly as many (**29%**) provide their employees with the tools necessary (such as cell phones, laptop computers, or tablets) to work remotely.

1 NBC News, http://www.nbcnews.com/id/33106445/ns/technology_and_science/t/lack-computer-skills-foils-many-job-seekers/

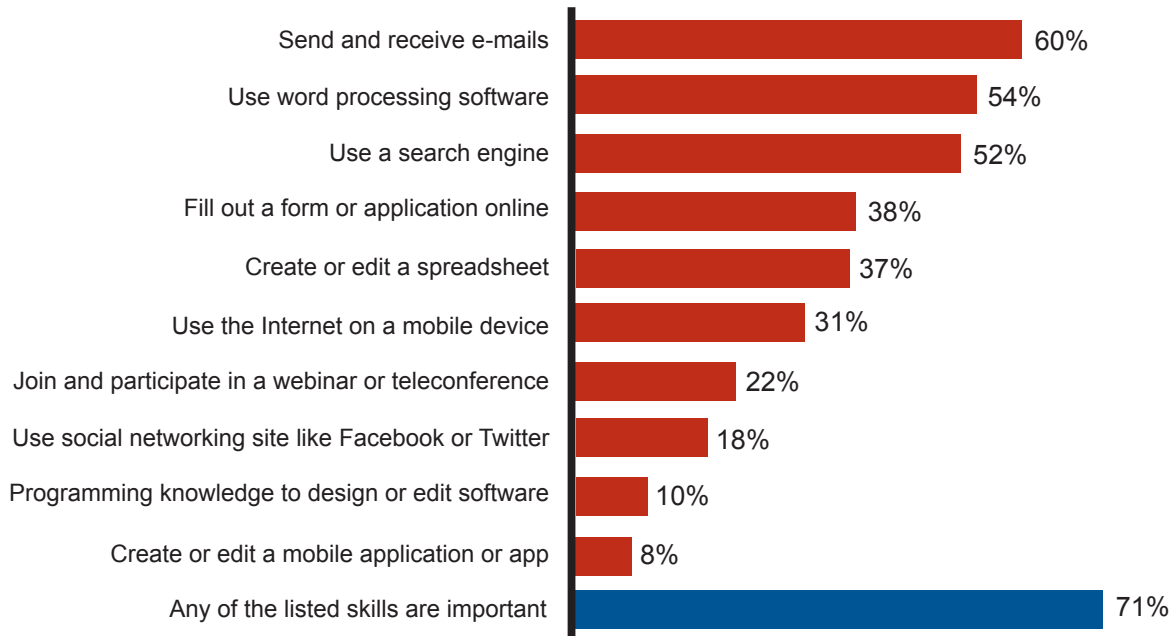
2 Source: 2012 Connected Tennessee Residential Technology Assessment.

3 Ibid.

Digital Skills Needed by Tennessee Businesses

When asked about the skills that businesses seek in a new hire, more than seven out of ten Tennessee businesses (71%) report that it is “important” or “very important” for new employees to have some digital skills (Figure 2).

Figure 2.
Businesses that Consider the Following Skills “Important”
or “Very Important” for Potential Employees to Have



When asked about what skills are important for potential employees, the ability to send and receive e-mails was considered important by the largest share of Tennessee businesses. Other applications, like the ability to use word processing software and a search engine, were also considered important by the majority of Tennessee businesses. In addition to being able to use current software, many companies feel it is important for new employees to be able to create their own software, as one in ten Tennessee businesses say it is important for new employees to have programming knowledge in order to design or edit software, while one in twelve (8%) say they should be able to create or edit a mobile application or “app.”

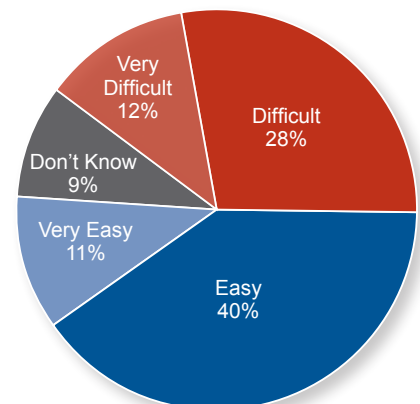
Finding and Training the Right Individuals

Despite the importance of these digital skills, many Tennessee businesses are having a hard time finding employees who have the necessary technical skills.

According to Connected Tennessee’s 2013 Business Technology Assessment, two out of five businesses (40%) in the state said it is “difficult” or “very difficult” to find employees who have sufficient skills to meet their needs (Figure 3).

In order to fill these knowledge gaps, many businesses have to spend additional time and money training their new employees. One in four Tennessee businesses (25%) say they have sent their employees to a class, training, or workshop to learn how to use new technology during the last twelve months. In addition, more than one in seven Tennessee businesses (15%) had a trainer or instructor come to their business facility to teach employees how to use new technologies in the last twelve months.

Figure 3.
Difficulty in Finding Tennessee Employees
with the Necessary Skills



Digital Benefits: Teleworking and Working Remotely

For businesses whose employees have the skills and capability to use broadband, both employees and the businesses themselves can benefit by providing greater worker flexibility and allowing employees to stay connected even when they are away from the office.

Across the state, three out of ten Tennessee businesses (30%, or approximately 38,000, businesses statewide) allow their employees to work from home with an Internet connection (Figure 4). This is an increase of 12 percentage points since 2010, a significant growth in teleworking among Tennessee businesses. Furthermore, 43% of businesses in Tennessee report that their employees use the Internet to conduct work outside of normal business hours.

Many businesses are seeing the benefit of having employees who can interact with co-workers and customers even when they are not at the worksite. As a result, nearly three in ten Tennessee businesses (29%, representing approximately 37,000 business establishments statewide) provide the equipment necessary to work remotely (Table 1). This includes 18% that provide their employees with cell phones or mobile devices, an additional 18% that provide laptop computers for their employees, 9% that provide desktop computers for their employees to use at home, and 6% that support their employees by providing them with tablet computers for their work.

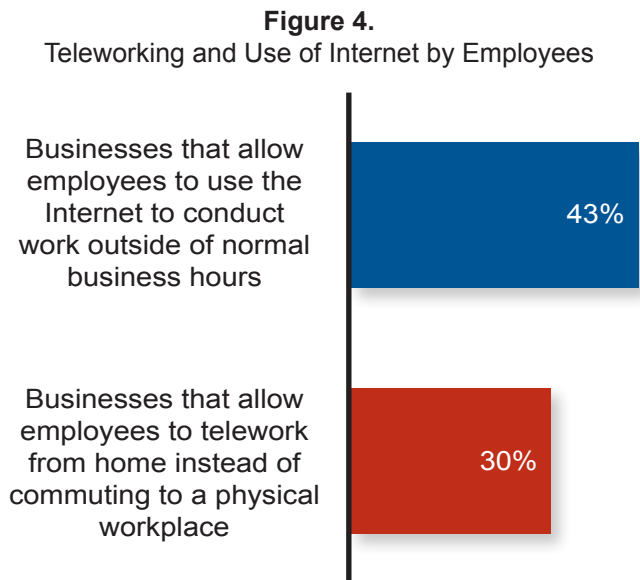


Table 1.
How Tennessee Businesses Support Remote Workers

Tennessee Businesses that Provide the Following Tools for their Employees	
Cell phones or mobile devices	18%
Laptop computers	18%
Desktop computers	9%
Tablet computers	6%
Any of the Above	29%

Conclusion

Digital skills are vital to any organization, and a growing number of Tennessee businesses are embracing broadband technology as a tool to help them remain competitive. Yet despite the growth opportunities that technology provides businesses, many in Tennessee are still unable to find employees with the right mix of skills needed to make the most out of that technology.

For this reason, programs like Connected Nation's Digital Works and Every Citizen Online that train Tennesseans how to use computers and the Internet are vitally important. To remain competitive, businesses in the state need a pool of employees who have the ability to use technology in meaningful ways, so digital literacy training and workforce skills are vital as Tennessee works to maintain a skilled workforce. Doing so will help businesses, as well as communities, grow and thrive.

Methodology

Between April 4 and May 10, 2013, Connected Tennessee conducted a telephone survey of 799 business establishments across the state. A business establishment is defined as a single physical location at which business is conducted or services or industrial operations are performed. Upon reaching a business establishment, the surveyor asked to speak with the “person most knowledgeable about [the] organization’s technology use.” On average, these surveys took approximately 12 minutes to complete. Data were collected by Thoroughbred Research of Louisville, KY.

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 was contacted for the survey. Altogether, Connected Tennessee surveyed 799 business establishments statewide, including 119 businesses with 50+ employees, 149 businesses with 20-49 employees, 254 businesses with 5-19 employees, and 277 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. Each business establishment was also asked to confirm their physical location (county and state) to establish that the business establishment was physically located within the state.

Multiple attempts were made to reach the business establishment 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. Connected Tennessee 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 were subsequently weighted using a rim weighting process to ensure that the sample was representative of all employer business establishments statewide, with targets determined according to the 2011 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.

Based on the effective sample size, the effective post-weighting margin of error = $\pm 4.46\%$ 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.

This business 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. To learn more about Connected Tennessee and its programs please visit www.connectedtn.org or e-mail us at info@connectedtn.org.



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