



# Technology Use among Home-Based Businesses: Michigan Entrepreneurs Use Technology to Thrive



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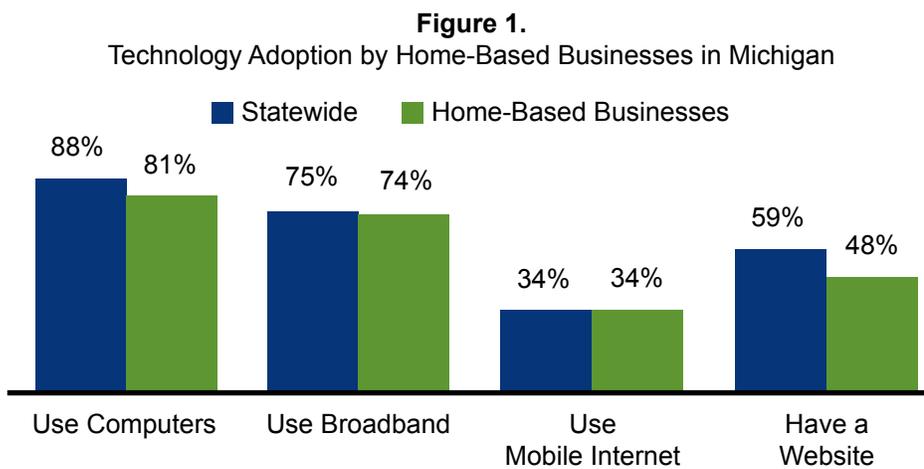
Many Americans are taking today's tough economic times and turning them into opportunities to start their own home-based business. Nationally there are 38 million home-based businesses, with a new one starting every 12 seconds.<sup>1</sup> Surveys show that more than two out of three U.S. entrepreneurs (69%) start their businesses at home.<sup>2</sup>

Behind these numbers, broadband has been recognized as a tool that helps Michigan home-based businesses thrive. With a broadband connection, an owner of a home-based business is able to operate efficiently and expand their customer base by reaching out to customers around the world and increasing revenues.

To examine the landscape of broadband adoption and use among home-based businesses in Michigan, Connect Michigan surveyed 800 businesses through a telephone survey, including 137 home-based businesses. The results indicate that many of these businesses use broadband for their daily functions and rely on it to increase revenue.

## Technology Adoption by Home-Based Businesses in Michigan

Home-based businesses are on par with other Michigan businesses in terms of broadband use and mobile Internet use. On the other hand, they are less likely to use computers or maintain an online presence via a website (Figure 1).



These gaps are closing, though; among home-based businesses in Michigan, computer ownership has increased by 14 percentage points, broadband usage has grown by 15 percentage points, and website ownership has increased by 11 percentage points since 2011.<sup>3</sup>

## How Home-Based Businesses Use the Internet

Home-based Michigan businesses that use the Internet go online for a wide variety of reasons, ranging from buying products and services online and conducting business with government offices, to connecting with their regular customers and learning how to make their businesses more efficient (Figure 2).

### Among the findings from this report:

- Michigan home-based businesses use broadband at a similar rate as other businesses in the state. Of these businesses, **74%** use broadband and **34%** use mobile Internet for their business operations.
- Home-based businesses are **more likely** than other businesses in the state to use the Internet to buy products and services, research how to make their businesses more efficient, and interact with government offices.
- One in five** home-based Michigan businesses (**20%**) report that their employees attended a class, training, or workshop in the previous year to learn how to use some new technology, while nearly **one in eight (12%)** brought a trainer or instructor to the business to help teach employees how to use new technology.
- Across the state, nearly **nine out of ten** home-based businesses that use the Internet (**87%**) buy goods or services online. This represents approximately **33,000** home-based Michigan businesses that made an online purchase in the past year.
- Michigan home-based businesses made over **400,000** transactions with Michigan vendors annually that are worth more than \$79 million in online purchases, and earned \$2 billion in annual revenues from online sales.

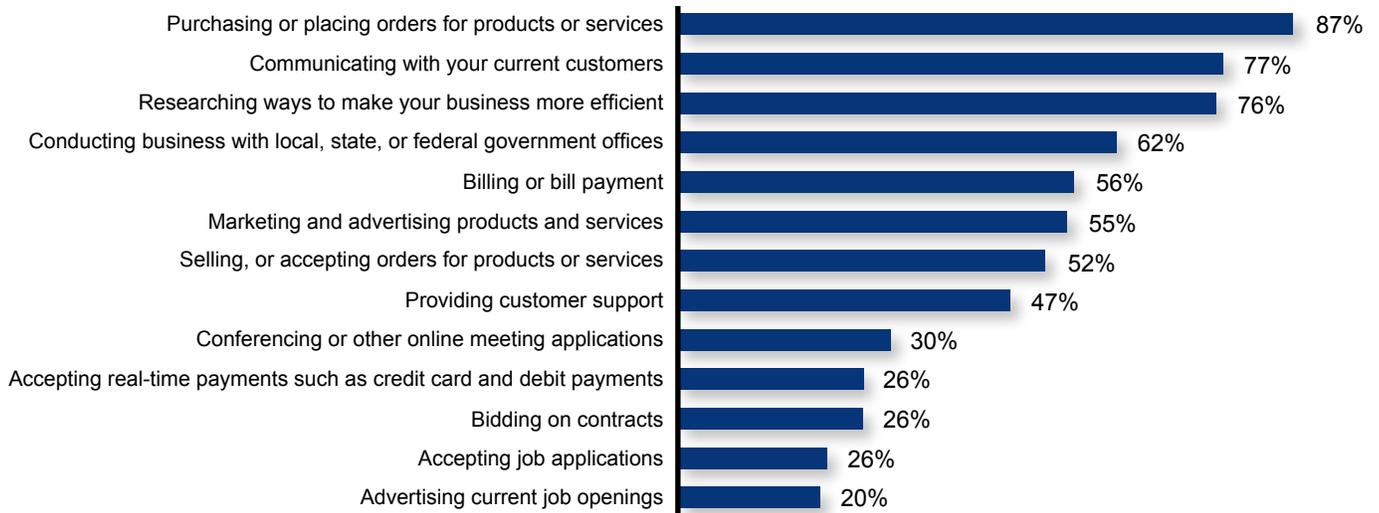
<sup>1</sup> Ministerial Alliance Against The Digital Divide, <http://www.maadd.org/broadband-fueled-home-businesses/>

<sup>2</sup> Small Business Trends, <http://smallbiztrends.com/2013/07/home-based-businesses-startup.html>

<sup>3</sup> Connect Michigan's 2013 and 2011 Business Survey, <http://www.connectmi.org/survey-results/business>

**Figure 2.**

**Online Applications Used by Internet-Connected Home-Based Businesses in Michigan**



In fact, home-based businesses are more likely than other businesses in the state to use the Internet to buy products and services, research how to make their businesses more efficient, and interact with government offices. On the other hand, some activities such as online conferencing, accepting online payments, and advertising current job openings are less likely to be used by Internet-connected home-based businesses.

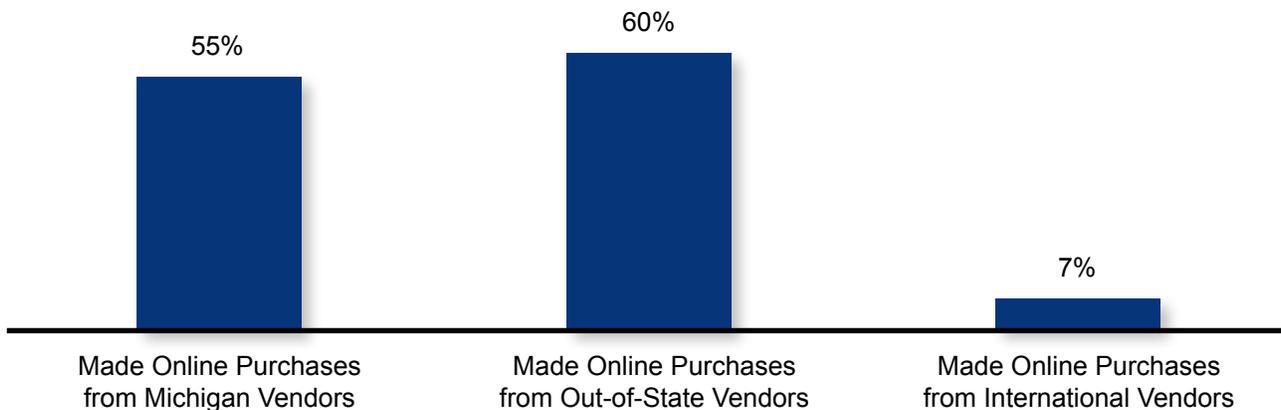
Obviously, many home-based Michigan businesses realize the value of the Internet and are eager to learn new ways to use technology. One in five home-based Michigan businesses (20%) report that their employees attended a class, training, or workshop in the previous year to learn how to use some new technology, while nearly one in eight (12%) brought a trainer or instructor to the business to help teach employees how to use new technology.

### Online Purchases and Sales among Home-Based Businesses in Michigan

Across the state, nearly nine out of ten home-based businesses that use the Internet (87%) buy goods or services online. In the past year, approximately 33,000 home-based Michigan businesses made an online purchase. This includes 55% of those Internet-connected businesses that bought goods or service from vendors located in Michigan, 60% that made an online purchase from a U.S. vendor outside of Michigan, and 7% that bought goods or services from vendors outside the U.S. (Figure 3).

**Figure 3.**

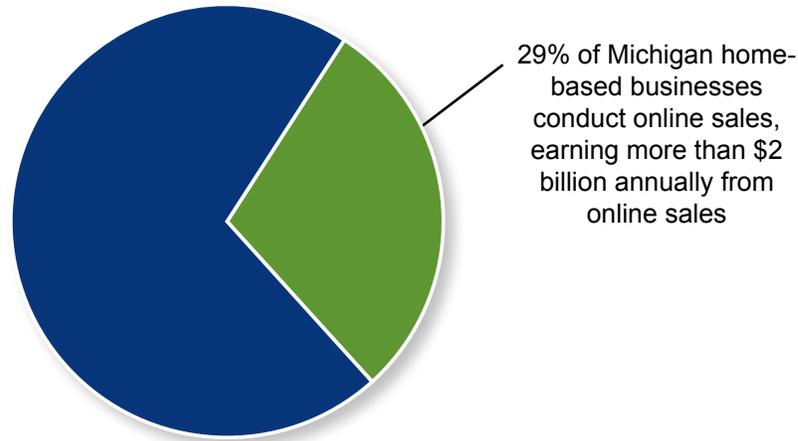
**Online Purchases by Home-Based Businesses in Michigan**



Many of those dollars remain in Michigan to help the state economy. Businesses that went online to buy goods or services reported making an average of 20 online purchases from in-state vendors, spending an average of \$3,969 over the year. Altogether, this translates into more than 400,000 transactions worth more than \$79 million in annual online purchases that went to Michigan businesses.

In addition to online purchases, home-based Michigan businesses also go online to sell goods or services to customers around the globe. Statewide, nearly three out of ten (29%) home-based businesses earn revenues from online sales; on average these businesses earn nearly one-half (49%) of their revenues from online transactions (Figure 4). Statewide, this translates into more than \$2 billion in annual revenues for Michigan home-based businesses as a result of online sales.

**Figure 4.**  
Online Sales by Michigan Home-Based Businesses



## Conclusions

Many home-based businesses in Michigan realize the value of broadband and go online to seek opportunities for expansion. Nearly three out of four of these home-based businesses (74%) adopt broadband in Michigan. Among these broadband-connected businesses, the vast majority use online applications to increase revenues and reduce costs. Nearly nine out of ten (87%) home-based businesses that use the Internet make online purchases or place orders for goods and services online. In addition, online sales make up more than \$2 billion annually in sales revenue for home-based businesses in Michigan.

Our research shows that home-based businesses in Michigan are eager to use technology in meaningful ways to help attract new customers and support their relationships with existing ones. That is why it is so important to provide every possible opportunity for home-based businesses to learn about the benefits of broadband, as well as to help them learn how broadband can benefit their businesses. With that knowledge, broadband adoption among home-based businesses in Michigan will continue to flourish.



## Methodology

Between April 4 and May 8, 2013, Connect Michigan conducted a telephone survey of 800 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 11 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, this sample included 43 businesses with 50+ employees, 151 businesses with 20-49 employees, 317 businesses with 5-19 employees, and 289 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. At least four attempts were made to reach a 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. Connect Michigan 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. Subsequently, these results are reviewed by an expert in Survey Design and Statistics from Michigan State University.

For the purpose of setting quotas and weighting, businesses were categorized by the North American Industry Classification System (NAICS) code associated with each establishment in their Dun and Bradstreet listing. In addition, interviewers confirmed the accuracy of these NAICS code classifications by asking “Our records indicate that this business we have been talking to you about is primarily involved in [name associated with 4 digit NAICS code]. Is this correct?” Businesses are considered part of the High Tech industry sector if the industry associated with their 4 digit NAICS code has a high proportion of technology oriented workers, including engineers, engineering technicians, scientists, science technicians, and managers in engineering, computing/information systems and science. This definition is based on a study published in the July 2005 issue of Monthly Labor Review. “Rural” business establishments are defined as operating 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.

Based on the effective sample size of 524, the effective post-weighting margin of error =  $\pm 4.28\%$  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.

## Definitions

### Technology Adoption Definition

1. Home-based businesses are defined as businesses that answered “yes” when asked “Does this business operate primarily from somebody’s home?”
2. Broadband adopters are defined as respondents who answered “yes” when asked “Does your company use the Internet to handle any of your business functions?” AND when asked “Which of the following describe the type of Internet access your company has?” responded DSL, Cable Modem, Fiber Optic service, Dedicated Services such as T1 or T3, Fixed Wireless broadband through an outdoor antenna, Satellite broadband, 3G or 4G wireless service through a cellular phone network, or a similar technology. Respondents could provide multiple answers.
3. Computer users are defined as respondents who answered “yes” when asked “Now, does your company use any type of computer technology to handle any of its business functions (for example: sales, cash receipts, accounting, inventory control or management reporting)?” These respondents were then asked “What types of computers do employees in this business use,” and allowed to give multiple responses.
4. Mobile Internet users are defined as businesses that answered “yes” when asked “Do employees at your business use mobile Internet service on a cell phone or mobile device to handle any of their business functions?”
5. Businesses with websites are defined as those that answered “yes” when asked “Does your company have a website?”
6. Businesses that earn sales revenues from online sales are defined as those that met all of the following criteria:
  - Report that they use the Internet;
  - Report that they use the Internet for “Selling, or accepting orders for products or services” or for “Accepting real time payments such as credit card and debit payments;” and
  - When asked “What percentage of your company’s total sales revenue takes place online,” responded with a number equal to or greater than 1%.
7. Businesses that used the Internet to buy from in-state vendors in the previous year are defined as those who responded “yes” when asked “In the past 12 months, did your business use the Internet to order goods or services from vendors located within Michigan?”
8. Businesses that used the Internet to buy from out-of-state American vendors in the previous year are defined as those who responded “yes” when asked “In the past 12 months, did your business use the Internet to order goods or services from United States vendors outside of Michigan?”
9. Businesses that used the Internet to buy from out-of-state American vendors in the previous year are defined as those who responded “yes” when asked “In the past 12 months, did your business use the Internet to order goods or services from vendors outside of the United States?”

## APPENDIX A:

### Select Sample Sizes

#### Connect Michigan’s 2013 Business Survey

	Sample Sizes
All business	800
Home-based businesses	137
Home-based businesses with broadband	97
Home-based businesses without broadband	40