

E-Commerce in Nebraska: A Survey of Business Technology Use



CENTER FOR APPLIED RURAL INNOVATION RESEARCH REPORT

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Executive Summary

Small businesses are an integral part of Nebraska's economy. A significant way that these businesses can expand their opportunities is through e-commerce applications. These applications can help small businesses improve their efficiency and expand the marketing of their products or perhaps create new markets. Are businesses in Nebraska utilizing this important tool? Do they understand how e-commerce can be utilized in their business? A survey of businesses was taken in an effort to answer these questions.

This report details 585 responses from businesses across the state. Respondents were asked a series of questions about their business, their use of technology in their business, their own personal use of technology and their interest in e-commerce training. The sample was generated using three sources: a random sample of businesses purchased from a mailing list company, a list of past participants of the Nebraska Electronic Main Street program and a list of past participants of the Nebraska EDGE program. The results are presented as summaries of the entire sample and will also include significant differences between various groups of respondents. Some key findings emerged:

- ***Most businesses use various technologies.*** Eighty-five percent use computers in their business, 77 percent use Internet access, 75 percent use fax machines and 79 percent utilize cellular phones. The past program participants are more likely than the random sample of businesses to use computers and Internet access. Ninety-six percent of the Electronic Main Street participants and 90 percent of the EDGE participants use a computer in their business. In comparison, 79 percent of the random sample of businesses currently use a computer. The proportions of these groups using Internet access are: Electronic Main Street (90%), EDGE (82%) and random sample (69%). Businesses with larger numbers of employees are more likely than businesses with fewer employees to use computers and Internet access in their business. Ninety-five percent of the businesses with more than five employees use computers in their business compared to only 74 percent of the businesses with only one employee.
- ***Many businesses classify their level of expertise with computers and other information technologies as intermediate.*** Forty-three percent classify their expertise as intermediate, 14 percent say they are a non-user, 22 percent are a basic/elementary user and 21 percent rate themselves as proficient users of technology. The Electronic Main Street participants are more likely than the other two groups to view themselves as proficient users of technology. Thirty-nine percent of these participants classify themselves as proficient users compared to 18 percent of both the EDGE participants and the random sample of businesses. Twenty-one percent of the random sample of businesses say they are non-users of technology. Businesses located in larger communities and businesses with larger numbers of employees are more likely than businesses located in smaller communities and businesses with fewer employees to rate themselves as proficient users of technology.
- ***Only 31 percent of the businesses currently have a web site.*** However, over one-half

- (52%) of the proficient users of technology have a website. In addition, almost one-half (48%) of the Electronic Main Street participants and the businesses with the largest number of employees have a web site.
- ***Of the businesses that currently have a web site, the most common feature available on their site is product or service information (96%).*** Twenty-one percent have online ordering on their site. Other features include: account information (12%), after sales service (12%) and online payments (11%).
 - ***Over one-half of the businesses with a web site say it has not helped generate a great amount of profit for their business. But, many expect to generate more of their revenue from Internet sales in the future.*** Fifty-five percent say their site has not helped generate a great amount of profit, 15 percent say it has and 30 percent are not sure. The average revenue from 2002 from Internet sales was 5.5%. But, most expect this proportion to rise next year. The average proportion of revenue from 2004 that they anticipate being from Internet sales is 9%. Fifty-six percent anticipate at least some of their revenue from 2004 to be from Internet sales.
 - ***Many of the businesses currently use a computer or other information technology for various business practices.*** The proportions of businesses that extensively use a computer or other information technology for the following include: record keeping/accounting payroll (54%), e-mail (39%), Internet access (35%), cellular phones (33%), database management (31%), and using the Internet for information and research (31%). For most of the businesses practices listed, the past program participants and the proficient users of technology are more likely than the random sample of businesses and businesses with less expertise with technology to extensively use a computer or other information technology to do them.
 - ***Many businesses believe various e-commerce strategies are very important to their business in the future.*** The proportions saying the following are very important to their business in the future are: reaching new customers (29%), providing detailed product/service information online (27%), capability to provide secure online transactions (24%), being able to place orders online with suppliers (22%), and improving customer service and support through web site (22%). For each of the items listed, the past program participants and the proficient users of technology are more likely than the random sample of businesses and businesses with less expertise with technology to believe they are very important for the future of their business.
 - ***However, many businesses are not currently utilizing any of these e-commerce strategies.*** The proportion saying they do not do some of these strategies is as follows: allowing customers to pay online (91%), providing customers online account information (89%), providing customers with ability to track orders (89%), capability to provide secure online transactions (87%), allowing customers to place orders online (85%), electronic marketing to existing customers (78%) and customer service and support through web site (75%).
 - ***Over one-half (52%) of the businesses consider keeping up with the times as a major benefit of their use of information technology.*** Other benefits and/or successes include: making more information available (46%), increased business/sales (38%), wider

- coverage or exposure to new markets (38%), reduced workload/saves time (38%), ability to purchase supplies/inputs via the Internet (33%), better marketing (32%) and flexibility for customers (increased options) (25%).
- ***Forty-two percent of the businesses are considering using information technology to expand or restructure their business in the future.*** Of those considering this change, the following areas are seen as the greatest challenges for them when doing so: understand the opportunities available via the Internet (60%), understanding how their industry is using the Internet (53%), developing a business strategy for electronic commerce (44%) and restructuring their business around the Internet (34%).
 - ***The biggest perceived barrier to using e-commerce practices in their business is they prefer personal contact with customers.*** Seventy-nine percent say this is a barrier to using e-commerce practices. The proportions saying the following are a barrier to their using e-commerce practices in their business are: lack of time to implement and/or maintain a web site (71%), cost of developing and maintaining an Internet system (68%) and knowledge of e-commerce practices (67%).
 - ***Over one-half of the businesses are either very or somewhat interested in learning about the following: using the Internet for customer information/support (53%), marketing their web site (53%), web application development/hosting (52%), and how to find vendors/suppliers through the Internet (52%).***

Introduction

Small businesses and entrepreneurs are an integral part of Nebraska's economy. E-commerce applications can help these small businesses expand their opportunities and remain competitive in the global economy. These applications provide enormous potential for Nebraska businesses - helping them improve their efficiency and expanding the marketing of their products or perhaps creating new markets. E-commerce is proving to be a great equalizer for the smallest of businesses and those from rural locations.

Given the growing importance of electronic commerce, are businesses in Nebraska utilizing this important tool? Do they understand how e-commerce can be utilized in their business? What are some barriers they face in implementing e-commerce applications in their business? This paper addresses these questions.

A survey of businesses in Nebraska was taken in an effort to assess technology utilization and barriers to its use. Respondents were asked a series of questions about their business, their use of technology in their business, their own personal use of technology and their interest in e-commerce training. The sample was generated using three sources: a random sample of businesses purchased from a mailing list company, a list of past participants of the Nebraska Electronic Main Street program and a list of past participants of the Nebraska EDGE program. The results are presented as summaries of the entire sample and will also include significant differences between the groups of respondents.

Methodology and Respondent Profile

This study is based on 585 responses from businesses in Nebraska. A self-administered questionnaire was mailed in September to approximately 1,400 businesses. The sample was generated using three sources: a random sample of businesses purchased from a mailing list company, a list of past participants of the Nebraska Electronic Main Street program and a list of past participants of the Nebraska EDGE program (a business development training program). The 10-page questionnaire included questions about their business, their use of technology in their business, their own personal use of technology and their interest in e-commerce training.

A 47 percent response rate was achieved using the total design method (Dillman, 1978). The sequence of steps used follows:

1. A pre-notification letter was sent requesting participation in the study.
2. The questionnaire was mailed with an informal letter signed by the project director approximately seven days later.
3. A reminder postcard was sent to the entire sample approximately seven days after the questionnaire had been sent.
4. Those who had not yet responded within approximately 14 days of the original mailing were sent a replacement questionnaire.

Twenty percent of the businesses are involved in retail trade, 14 percent are involved in agriculture, forestry and fisheries and 14 percent chose "other." The average business owner or manager had owned or operated the business for almost 15 years. Forty-two percent of the owners/managers have owned or operated

the business for less than 10 years.

Most of the businesses (60%) are located in a retail office space or manufacturing site. Sixteen percent are home-based and 15 percent are located on the owner's farm. Over one-half (52%) of the businesses are located in communities with populations less than 5,000. Thirty percent are located in communities with populations exceeding 20,000.

The businesses employ an average of 9.3 employees (including the owner). Eighty-five percent of the businesses employ 10 or fewer employees. The number of employees ranged from 1 to 450.

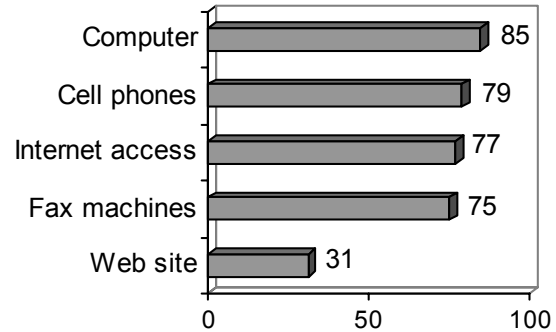
Most of the respondents use technologies in their home. Eighty-three percent use a computer in their home and 77 percent use Internet access. Only 32 percent have taken a computer training course in the past three years and 23 percent have taken an Internet training course. They report higher skill levels in using computer hardware, using e-mail, using the Internet for research/business and using software packages. Lower skill levels are reported for computer programming, computer networking and creating/maintaining a web site.

Technology in the Business

Most of the businesses use various technologies. Eighty-five percent use computers, 77 percent have Internet access, 75 percent use fax machines and 79 percent use cellular phones (Figure 1). However, only 31 percent currently have a web site.

When asked how they would describe their business's level of expertise with computers

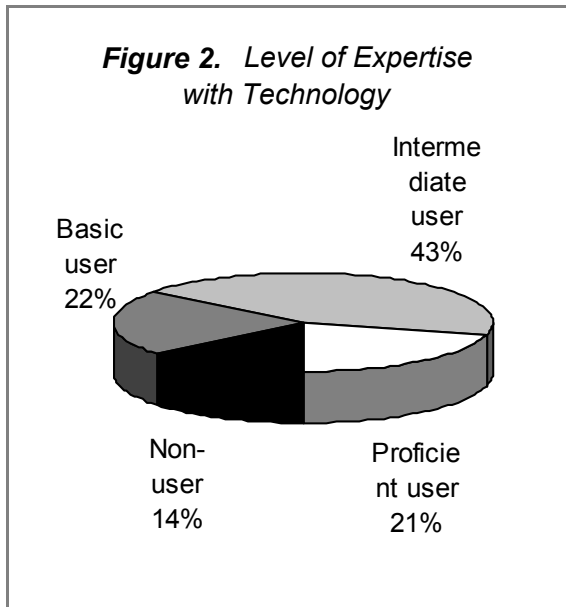
Figure 1. Percent of Businesses Using Various Technologies



and other information technologies, 43 percent classify themselves as intermediate users (Figure 2). Fourteen percent say they are a non-user, 22 percent classify themselves as a basic/elementary user and 21 percent rate themselves as proficient users of technology.

The past program participants are more likely than the random sample of businesses to use computers and Internet access (Appendix Table 1). Ninety-six percent of the Electronic Main Street participants and 90 percent of the EDGE participants use a computer in their business. In comparison, 79 percent of the random sample of businesses currently use a computer. The proportions of these groups using Internet access are: Electronic Main Street (90%), EDGE (82%) and random sample (69%).

The proportion using a computer, Internet access and having a web site were also analyzed by community size, business type, business size and the business's level of



expertise with technology (see Appendix Table 1). Statistically significant differences are detected by business type, business size and level of expertise with technology. The businesses classified as “other” are more likely than businesses of a different type to have a web site. Forty-two percent of the businesses classified as “other” have a web site compared to only 18 percent of the agricultural businesses. Thirty-seven percent of the construction, manufacturing and transportation companies have a web site.

Larger businesses, in terms of number of employees, are more likely than smaller businesses to use computers and Internet access and have a web site. Ninety-five percent of the businesses with more than five employees use computers in their business compared to only 74 percent of the businesses with only one employee. In addition, 48 percent of these larger businesses have a web site, compared to only 20 percent of the businesses with only

one employee.

And, as expected, businesses that classify their level of expertise with technology as proficient are more likely to use these technologies than are businesses who classify themselves as non-users or basic/elementary users. As an example, 52 percent of the businesses who are proficient users of technology have a web site, compared to only 5 percent of the businesses which are non-users of technology and 23 percent of the basic/elementary users.

When comparing level of expertise with technology by community size and business characteristics, some differences do emerge (Appendix Table 2). Businesses located in larger communities are more likely than businesses in smaller communities to classify themselves as proficient users of technology. Twenty-nine percent of the businesses located in communities with populations ranging from 5,000 to 19,999 say they are proficient users of technology, compared to only 16 percent of the businesses located in communities with less than 5,000 people.

Businesses with larger numbers of employees are more likely than businesses with fewer employees to say they are proficient users. Thirty percent of the businesses with more than five employees rate themselves as proficient users, compared to only 16 percent of the businesses with only one employee.

The Electronic Main Street participants are more likely than the other two groups to view themselves as proficient users of technology. Thirty-nine percent of these participants classify themselves as proficient

users compared to 18 percent of both the EDGE participants and the random sample of businesses. Twenty-one percent of the random sample of businesses say they are non-users of technology.

The businesses that currently have a web site were asked how it was first created. Forty-three percent of the businesses designed and created it themselves. Thirty-nine percent contracted with a Nebraska company to create and host it and 18 percent contracted with an out of state company.

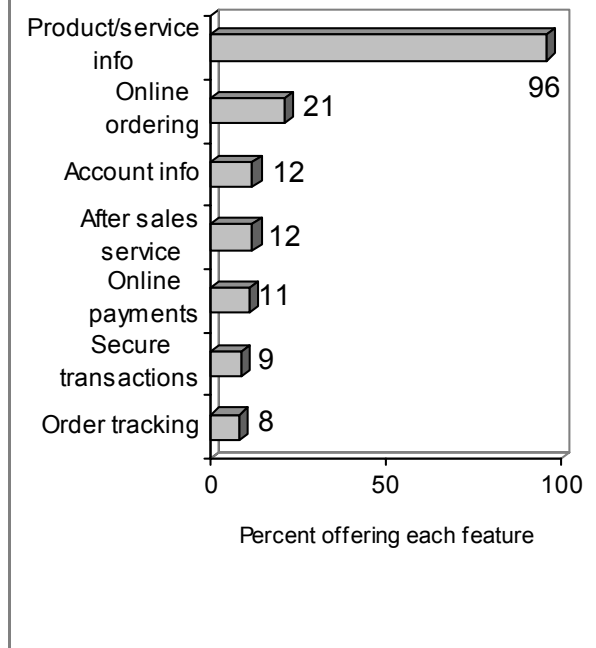
The businesses that contract out their web site pay an average of \$40.78 per month for these services. Sixty-one percent pay \$30 or less each month. Seventy-one percent of the businesses who contract with another company to host their web site are either very or somewhat satisfied with their contractor.

The most common feature available on the business's web site is product or service information. Ninety-six percent of the businesses with a web site include this information on their web site (Figure 3). Other features available include: online ordering (21%), account information (12%), after sales service (12%), online payments (11%), capability to provide secure transactions (9%) and ability to track orders (8%).

When asked if their web site has helped generate a great amount of profit for their business, over one-half (55%) said no. Fifteen percent say their web site has helped generate a great amount of profit and 30 percent aren't sure.

The average percentage of their total

Figure 3. Features Available on Web Site



revenue for 2002 resulting from Internet sales was 5.5%. Fifty-seven percent said that none of their revenue from 2002 was from Internet sales. However, most businesses expect this proportion to rise next year. The average proportion of revenue for 2004 that they anticipate being from Internet sales is 9%. Fifty-six percent anticipate at least some of their revenue from 2004 to be from Internet sales.

Many of the businesses (58%) plan further development of their web site. Seventeen percent aren't sure if they will be developing their site further. The areas in which they are planning further development include: expansion of the site (i.e., adding new features) (75%), more frequent updating of the site (74%), redesign of web site (46%) and adding capacity to engage in business to business transactions (22%).

The business practices in which at least one-third of the businesses extensively use a computer or other information technology for include: record keeping/accounting/payroll (54%), e-mail (39%), Internet access (35%) and cellular phones (33%). Over seventy percent of the businesses do not use a computer or other technology to do the following: using the Internet for inventory control and management (89%), palm pilots (84%), web application development/hosting (79%), posting catalogs/prices/services on the Internet (77%), process and manufacturing (71%) and online banking and other financial services (71%).

The use of the Internet for various business practices was examined by community size and business characteristics (Appendix Table 3). As expected, the businesses that classify themselves as proficient users of technology are more likely than businesses with less expertise with technology to do each of the practices listed. As an example, 69 percent of the proficient users extensively use e-mail, compared to only one percent of the non-users of technology and 13 percent of the basic/elementary users.

Differences in the use of the Internet for some of the practices occurred by business type. Businesses that classified themselves as “other” are more likely than businesses of a different type to extensively use each of the following practices: use e-mail, use the Internet for information and research, use the Internet to promote your business, use the Internet for inventory control and management, use the Internet for customer information and support, and use the Internet to take or provide educational

services. As one example, 46 percent of the businesses classified as “other” extensively use e-mail, compared to only 27 percent of the retail/wholesale trade businesses.

Businesses located in larger communities are more likely than businesses located in smaller communities to extensively use e-mail. Forty-three percent of the businesses located in communities with more than 20,000 people extensively use e-mail, compared to 36 percent of the businesses located in communities with less than 5,000 people. However, businesses located in the mid-size communities are more likely than businesses in communities of other sizes to extensively use the Internet to promote their business. Fifteen percent of the businesses located in communities with populations ranging from 5,000 to 19,999 extensively use the Internet to promote their business, compared to 8 percent of the businesses located in both smaller and larger communities. And, the businesses located in these mid-size communities are also more likely than the other businesses to use the Internet to take or provide educational services.

Businesses with only one employee were the business size group most likely to not do each of the following: use the Internet for information and research, use the Internet to promote your business, use the Internet for inventory control and management and use the Internet to take or provide educational services. Sixty-seven percent of the businesses with only one employee do not use the Internet to promote their business, compared to only 47 percent of the businesses with more than five employees.

For most of the businesses practices listed,

the past program participants are more likely than the random sample of businesses to extensively use a computer or other information technology to do them.

The respondents were then asked how important they consider various e-commerce strategies to be for their business in the future. At least one-half believe the following are either very or somewhat important to the future of their business: providing detailed product/service information online (66%), reaching new customers (65%), being able to place orders online with their suppliers (56%), improving customer service and support through web site (55%) and electronic marketing to existing customers (50%) (Figure 4).

The responses to this question were analyzed by community size and various business characteristics (Appendix Table 4). The businesses who rated their level of expertise with technology as proficient are more likely than the businesses with less expertise with technology to believe that each item is very important for their business in the future. As an example, 48 percent of the proficient users of technology rate providing detailed product/service information online as very important to the future of their business, compared to only three percent of the non-users of technology.

A couple of differences were also detected by business type. Businesses who classified their business type as “other” are more likely than different business types to believe that providing detailed product/service information online and electronic marketing to existing customers are very important to the future of their business. Forty-one percent of the

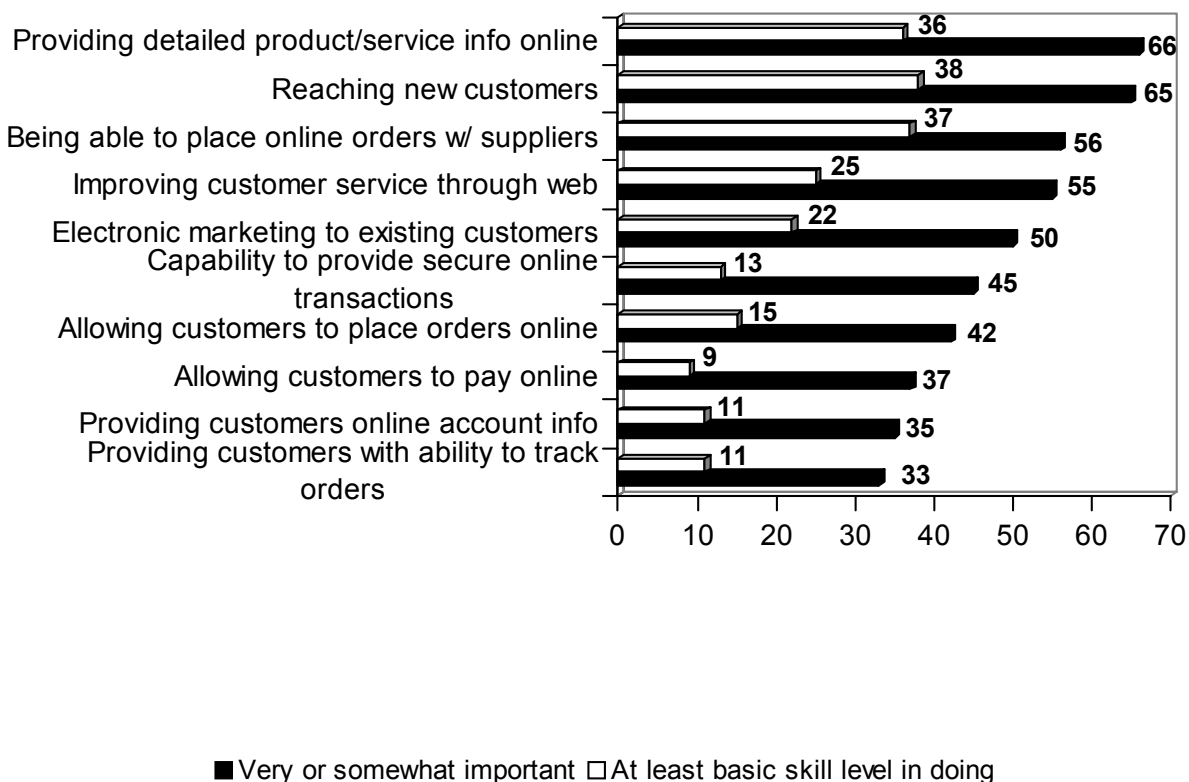
businesses classified as “other” believe providing detailed product/service information online is very important, compared to only 17 percent of the construction, manufacturing or transportation businesses.

For each of the items listed, the past program participants are more likely than the random sample of businesses to believe they are very important for the future of their business. As an example, 41 percent of the Electronic Main Street participants and 24 percent of the EDGE participants believe the capability to provide secure online transactions is very important, compared to only 19 percent of the random sample of businesses.

Even though many of the businesses believe the strategies just discussed are important to the future of their business, not many are currently utilizing them. The businesses were asked to rate their business’s skill level in doing each of the same strategies asked in the previous question. The answer categories were: don’t do, basic, intermediate and expert. At least one-third of the businesses do the following items on at least a basic level: reaching new customers (38%), placing orders online with suppliers (37%) and providing detailed product/service information (36%) (Figure 4).

The skill level of the businesses in doing each of these e-commerce strategies was examined by community size and various business characteristics (Appendix Table 5). As expected, the businesses who are proficient users of technology are more likely than the businesses with less expertise with technology to do each of the strategies

Figure 4. Comparison of Perceived Importance of E-Commerce Strategies and Actual Use



listed. As an example, only 39 percent of the proficient users of technology say they *don't* reach new customers, compared to 95 percent of the non-users of technology.

Some differences were also detected by community size. Businesses located in or near communities with populations ranging from 5,000 to 19,999 are more likely than the businesses located in or near larger or smaller communities to provide detailed/product service information online. Forty-one percent of the businesses located

in communities of this size currently provide detailed product/service information online, compared to approximately 35 percent of the businesses in either smaller or larger communities.

Businesses located in or near the smallest communities are more likely than businesses located in larger communities to allow customers to pay online. Ten percent of the businesses in the smallest communities allow their customers to pay online, compared to six percent of the businesses

located in communities with populations of 20,000 or more. Businesses in communities with populations less than 5,000 are more likely than businesses in larger communities to provide customers with the ability to track orders. And, businesses located in the mid-size communities (populations ranging from 5,000 to 19,999) are most likely to provide customers online account information.

One difference was detected by business size. Businesses with more than five employees are more likely than businesses with fewer employees to use electronic marketing to existing customers. Thirty percent of the largest businesses use electronic marketing, compared to only 18 percent of the businesses with only one employee.

The respondents were next asked what they consider to be the major benefits and/or successes of their business's use of information technology. They were given various responses and could circle all that applied. The top responses include: keeping up with the times/image of business (52%), making more information available (46%), increased business/sales (38%), wider coverage or exposure to new markets (38%), and reduced workload/saves time (38%). Other responses include: ability to purchase supplies/inputs via the Internet (33%), better marketing (32%), and flexibility for customers (increased options) (25%).

Forty-two percent of the businesses are considering using information technology to expand or restructure their business in the future. The responses to this question were analyzed by community size and various business characteristics (Appendix Table 6). The only difference occurred by level of

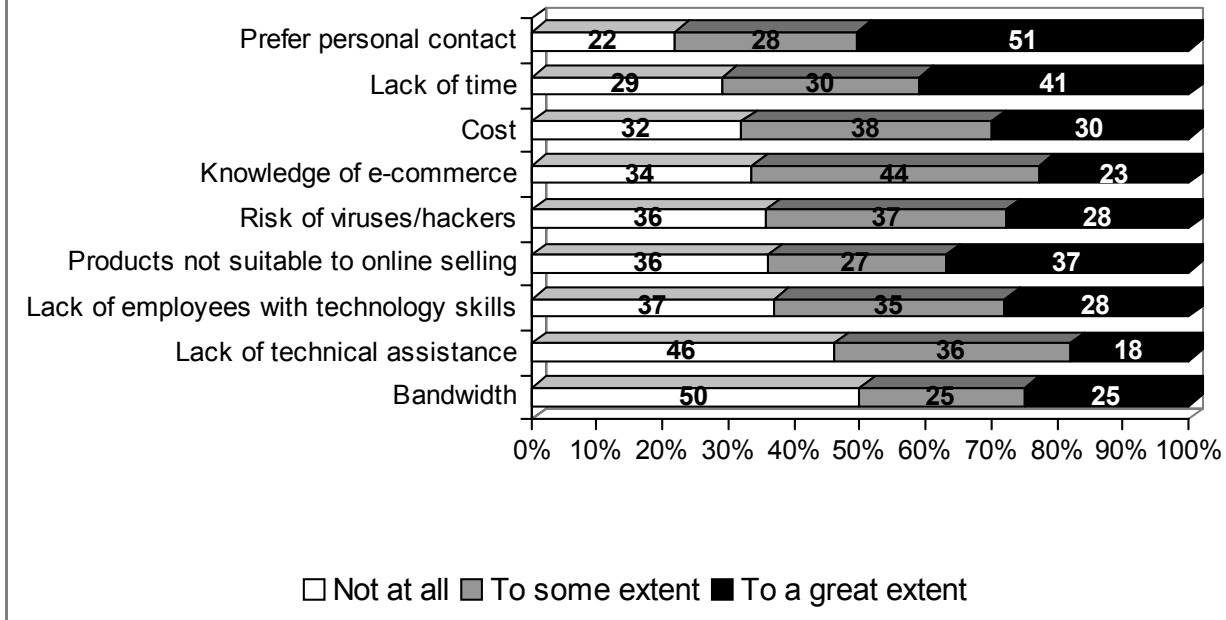
expertise with technology. The businesses who consider themselves proficient users of technology are more likely than the businesses with less expertise with technology to be considering expanding or restructuring their business in the future using information technology. Fifty-four percent of the proficient users are planning such a move, compared to only 16 percent of the non-users of technology.

At least one-third of the businesses who are considering expanding or restructuring their business using technology consider the following areas as the greatest challenges for them when doing so: understanding the opportunities available via the Internet (60%), understanding how their industry is using the Internet (53%), developing a business strategy for electronic commerce (44%) and restructuring their business around the Internet (34%).

Next, the respondents were asked to what extent various items are barriers to using various e-commerce practices in their business. At least two-thirds consider the following to be barriers to some or to a great extent: prefer personal contact with customers (79%), lack of time to implement and/or maintain web site (71%), the cost of developing and maintaining an Internet system (68%) and knowledge of e-commerce practices (67%) (Figure 5).

Analysis by community size and various business characteristics reveal that some of these items are more likely to be barriers for certain groups (Appendix Table 7). For most of the items listed, the businesses who are either basic/elementary users or intermediate users of technology are more likely to say that each is a barrier to using e-

Figure 5. Extent Items are Barriers to Using E-Commerce in Business



commerce practices in their business. For example, 77 percent of the basic/elementary and intermediate users of technology say lack of time to implement and/or maintain web site is a barrier to implementing e-commerce practices in their business. In

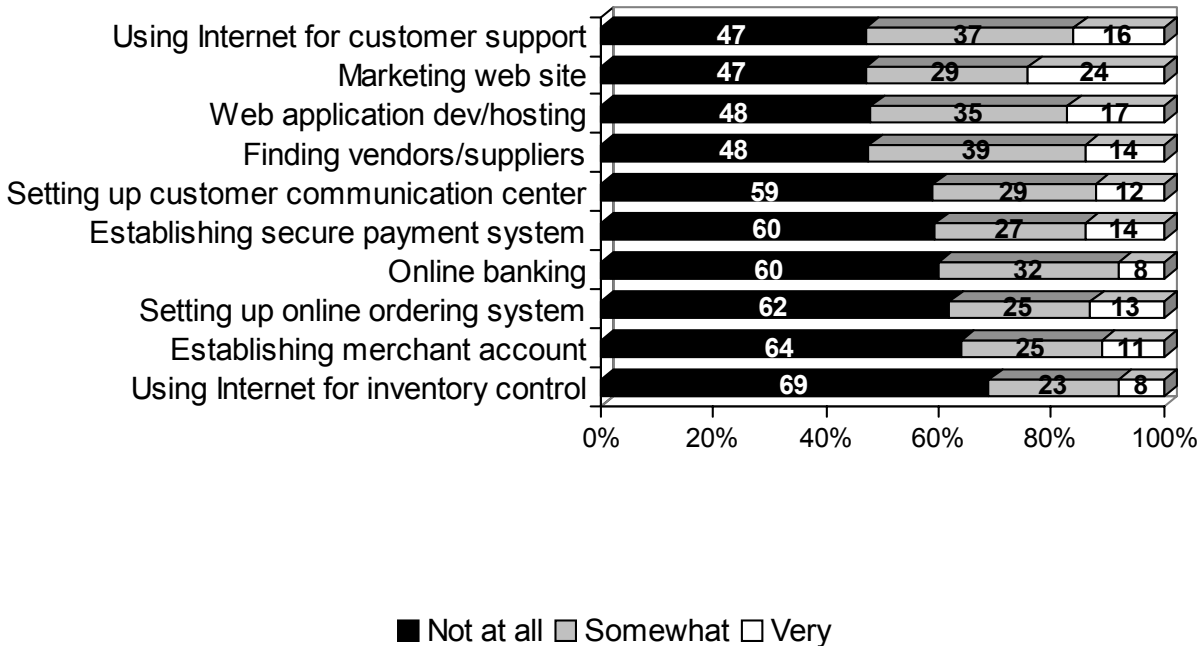
comparison, only 37 percent of the non-users view this as a barrier. These results suggest that non-users of technology do not plan to implement such practices in their business. And, this decision is not based on any particular barriers they are facing, other than their own personal preferences.

A couple of differences occur by business size. The businesses with the most employees are more likely than the businesses with fewer employees to view both bandwidth and lack of employees with

the necessary technology skills as barriers to implementing e-commerce practices in their businesses. Seventy-four percent of the businesses with more than five employees see the lack of employees with the necessary technology skills as a barrier to implementing e-commerce practices, compared to only 48 percent of the businesses with only one employee.

One difference is detected by community size. Businesses located in or near smaller communities are more likely than businesses in or near larger communities to view the cost of developing and maintaining an Internet system as a barrier. Seventy-five percent of the businesses located in or near communities with populations less than 5,000 view the cost as a barrier, compared to 59 percent of the businesses located in or near communities with populations of

Figure 6. Interest in Learning E-Commerce Topics



20,000 or more.

Interest in E-Commerce Training

When asked how interested they would be in learning about various e-commerce topics, over one-half are either very or somewhat interested in the following: using the Internet for customer information/support (53%), marketing their web site (53%), how to find vendors/suppliers through the Internet (53%) and web application development/hosting (52%) (Figure 6).

Differences in the level of interest occur by community size, business size and level of expertise with technology (Appendix Table 8). Businesses located in or near the

smallest communities are more likely than the businesses located in or near larger communities to be interested in learning web application development/hosting, setting up an online ordering system (shopping cart) and using the Internet for inventory control and management. Sixty percent of the businesses located in or near communities with less than 5,000 persons are either very or somewhat interested in learning web application development/hosting, compared to 41 percent of the businesses located in or near communities with populations of 20,000 or more.

Retail/wholesale trade businesses are more likely than businesses of different types to

be interested in learning how to find vendors/suppliers through the Internet, setting up an online ordering system (shopping cart) and setting up a customer communication center. Sixty-five percent of the retail/wholesale trade businesses are very or somewhat interested in learning how to find vendors/suppliers through the Internet, compared to only 44 percent of the service businesses.

The businesses who consider themselves proficient users of technology are more likely than businesses with less expertise with technology to be interested in learning most of the items listed. As an example, 67 percent of the proficient users are interested in learning how to market their web site, compared to only 16 percent of the non-users of technology. However, a couple exceptions to this general pattern occurred. The basic/elementary users are the group most interested in learning how to find vendors/suppliers through the Internet and the intermediate users are the ones most interested in learning online banking and other financial services.

When asked how comfortable they would be using various training delivery options, over one-half are either very or somewhat comfortable with each: one all day workshop (69%), a series of 3 - 4 hour sessions over a period of several weeks (66%) and online courses (62%).

At least one-third of the respondents say the following days and times would work best for them to participate in training courses or workshops: weekday evenings (46%), weekday afternoons (33%) and weekday mornings (33%). The worst days and times are Saturday evenings (12%), Saturday

afternoons (19%) and Saturday mornings (25%).

Conclusion

Most businesses are currently using computers and Internet access. However, only 31 percent currently have a web site. So, there is still room for more growth in technology utilization of businesses in the state. Many classify themselves as intermediate users of technology so perhaps that suggests that they are ready to continue developing technological applications in their businesses.

Many businesses that do currently have a web site only contain basic product/service information. Not many are utilizing higher level applications such as online ordering, online account information or online payments. This may be why many say their web site has not helped generate a great amount of profit for their business - they have yet to realize the full potential of a web site.

It is encouraging that many businesses see various e-commerce strategies as being important to their business in the future. However, not many are currently using any of these strategies. Thus, an opportunity for training in these areas exists. And, many expressed an interest in learning these advanced topics.

Appendix Table 1. Use of Technologies in Business by Community Size and Business Characteristics

<i>Are the following technologies used in your business?</i>			
	<i>Computer</i>	<i>Internet access</i>	<i>Web site for business</i>
	<i>Percent saying "yes"</i>		
Community Size	(n = 578)	(n = 564)	(n = 582)
Less than 5,000	87	78	28
5,000 - 19,999	83	75	37
20,000 or more	83	75	33
<i>Chi-square (significance level)</i>	P ² = 1.71 (.424)	P ² = 0.71 (.701)	P ² = 3.83 (.148)
Business Type	(n = 527)	(n = 513)	(n = 531)
Agriculture	80	73	18
Construction, mfg, transportation	93	86	37
Retail/wholesale trade	82	70	22
Services	88	80	34
Other	82	74	42
<i>Chi-square (significance level)</i>	P ² = 7.23 (.124)	P ² = 7.61 (.107)	P ² = 17.56 (.002)
Business Size	(n = 573)	(n = 559)	(n = 577)
1 employee	74	66	20
2 - 5 employees	84	76	25
More than 5 employees	95	86	48
<i>Chi-square (significance level)</i>	P ² = 27.97 (.000)	P ² = 17.85 (.000)	P ² = 37.23 (.000)
Expertise with Technology	(n = 574)	(n = 560)	(n = 578)
Non-user	12	7	5
Basic/elementary user	90	73	23
Intermediate user	99	92	34
Proficient user	99	95	52
<i>Chi-square (significance level)</i>	P ² = 383.7 (.000)	P ² = 267.15 (.000)	P ² = 53.99 (.000)
Sample Groups	(n = 574)	(n = 560)	(n = 577)
Main Street participants	96	90	48
EDGE participants	90	82	27
Random sample	79	69	29
<i>Chi-square (significance level)</i>	P ² = 19.3 (.000)	P ² = 20.1 (.000)	P ² = 13.8 (.001)

Appendix Table 2. Business's Level of Expertise With Technology by Community Size and Business Characteristics

How would you describe your business's level of expertise with computers and other information technologies?					
	<i>Non-user</i>	<i>Basic/elementary user</i>	<i>Intermediate User</i>	<i>Proficient user</i>	<i>Chi-square (significance)</i>
Community Size (n = 577)					
Less than 5,000	11	25	48	16	P ² = 18.02 (.006)
5,000 - 19,999	15	15	41	29	
20,000 or more	17	20	37	26	
Business Type (n = 527)					
Agriculture	13	32	47	9	P ² = 20.08 (.066)
Construction, mfg, transportation	12	17	45	27	
Retail/wholesale trade	16	27	40	18	
Services	13	21	43	24	
Other	16	14	41	30	
Business Size (n = 572)					
1 employee	19	30	36	16	P ² = 28.67 (.000)
2 - 5 employees	16	20	47	17	
More than 5 employees	6	19	45	30	
Sample Groups (n = 571)					
Main Street participants	2	16	43	39	P ² = 48.56 (.000)
EDGE participants	7	27	48	18	
Random sample	21	20	41	18	

Appendix Table 3. Use of the Internet for Various Business Practices by Community Size and Business Characteristics
How extensively does your business currently use a computer and other information technology for the following business practices?

	Using e-mail			Using the Internet for information and research			Chi-square
	Don't use	Limited use	Use moderately extensively	Don't use	Limited use	Use moderately extensively	
Community Size	<i>Percentages</i>						
Less than 5,000	21	16	36	19	23	(n = 573)	
5,000 - 19,999	32	11	39	27	14	27	P ² = 9.83
20,000 or more	28	14	43	26	15	29	(.132)
Business Type							
Agriculture	23	18	34	20	25	(n = 523)	
Construction, mfg, transportation	18	18	42	13	27	28	
Retail/wholesale trade	31	23	27	26	27	26	
Services	25	12	44	22	13	29	P ² = 23.66
Other	26	5	46	28	13	23	(.023)
Business Size							
1 employee	32	12	34	33	17	(n = 567)	
2 - 5 employees	27	14	38	20	19	30	P ² = 12.64
More than 5 employees	18	17	43	18	21	30	(.049)
Expertise with Technology							
Non-user	93	5	1	88	11	(n = 568)	
Basic/elementary user	25	30	13	27	39	25	
Intermediate user	12	15	48	10	17	36	P ² = 314.2
Proficient user	7	5	69	2	10	32	(.000)
Sample Groups							
Main Street participants	11	14	63	6	19	(n = 568)	
EDGE participants	17	12	40	14	23	28	P ² = 62.80
Random sample	35	17	32	33	16	30	(.000)

Appendix Table 3 continued.

		<i>How extensively does your business currently use a computer and other information technology for the following business practices?</i>				<i>Using the Internet to promote your business</i>				<i>Using the Internet to access a wider variety of vendors and suppliers</i>						
		<i>Don't use</i>	<i>Limited use</i>	<i>Use moderately</i>	<i>Use extensively</i>	<i>Chi-square</i>	<i>Don't use</i>	<i>Limited use</i>	<i>Use moderately</i>	<i>Use extensively</i>	<i>Chi-square</i>	<i>Don't use</i>	<i>Limited use</i>	<i>Use moderately</i>	<i>Use extensively</i>	<i>Chi-square</i>
		<i>Percentages</i>														
Community Size																
	Less than 5,000	62	17	(n = 571) 14	8		47	26	(n = 568) 19	8						
	5,000 - 19,999	55	19	11	15	P ² = 7.00	43	25	18	14						P ² = 5.36
	20,000 or more	59	22	11	8	(.321)	48	21	23	9						(.499)
Business Type																
	Agriculture	75	18	(n = 521) 3	5		56	24	(n = 518) 13	6						
	Construction, mfg, transportation	55	25	13	7		40	35	18	7						
	Retail/wholesale trade	66	20	10	3		48	26	16	10						
	Services	58	17	14	12	P ² = 28.72	42	24	25	10						P ² = 13.47
	Other	52	15	19	15	(.004)	45	21	22	12						(.336)
Business Size																
	1 employee	67	12	(n = 565) 13	9		51	22	(n = 562) 16	10						
	2 - 5 employees	65	16	11	8	P ² = 21.73	48	25	19	8						P ² = 6.41
	More than 5 employees	47	28	15	10	(.001)	40	25	25	10						(.378)
Technology Expertise																
	Non-user	96	3	(n = 566) 1	0		97	1	(n = 563) 1	0						
	Basic/elementary user	78	15	5	3		58	26	13	3						
	Intermediate user	54	18	17	11	P ² = 112.8	37	30	23	10						P ² = 141.9
	Proficient user	30	34	19	18	(.000)	21	25	33	21						(.000)
Sample Groups																
	Main Street participants	33	26	(n = 566) 20	21		28	24	(n = 563) 28	20						
	EDGE participants	57	20	13	10	P ² = 42.00	41	29	19	10						P ² = 30.82
	Random sample	70	15	10	6	(.000)	55	21	18	6						(.000)

Appendix Table 3 continued.

		<i>How extensively does your business currently use a computer and other information technology for the following business practices?</i>									
		<i>Using the Internet for customer information and support</i>			<i>Using the Internet to take or provide educational services</i>						
		<i>Don't use</i>	<i>Limited use</i>	<i>Use moderately</i>	<i>Use extensively</i>	<i>Chi-square</i>	<i>Don't use</i>	<i>Limited use</i>	<i>Use moderately</i>	<i>Use extensively</i>	<i>Chi-square</i>
Community Size											
	Less than 5,000	67	19	(n = 568)	5		66	23	(n = 564)	5	
	5,000 - 19,999	61	16	12	11	$P^2 = 7.16$	66	11	15	7	$P^2 = 14.70$
	20,000 or more	66	19	9	5	(.306)	69	21	5	5	(.023)
Business Type											
	Agriculture	84	9	(n = 518)	3		76	17	(n = 516)	4	
	Construction, mfg, transportation	64	21	10	5		60	31	5	3	
	Retail/wholesale trade	72	17	8	3		79	14	6	1	
	Services	58	26	10	7	$P^2 = 28.09$	60	22	11	7	$P^2 = 27.23$
	Other	57	17	13	12	(.005)	63	16	11	10	(.007)
Business Size											
	1 employee	68	18	(n = 562)	5		75	11	(n = 558)	6	
	2 - 5 employees	69	17	9	5	$P^2 = 3.96$	69	22	6	4	$P^2 = 16.73$
	More than 5 employees	60	22	10	8	(.682)	58	25	11	6	(.010)
Expertise with Technology											
	Non-user	99	1	(n = 563)	0		99	1	(n = 559)	0	
	Basic/elementary user	81	13	5	2		82	12	4	2	
	Intermediate user	62	20	12	6	$P^2 = 92.39$	61	25	8	7	$P^2 = 82.12$
	Proficient user	39	31	16	14	(.000)	44	30	16	10	(.000)
Sample Groups											
	Main Street participants	46	24	(n = 563)	9		52	20	(n = 559)	12	
	EDGE participants	66	20	10	5	$P^2 = 27.20$	64	24	7	5	$P^2 = 23.94$
	Random sample	72	17	6	6	(.000)	73	17	6	4	(.001)

Appendix Table 4. Importance of E-commerce Strategies for Business by Community Size and Business Characteristics
How important do you consider the following e-commerce strategies to be for your business in the future?

	Providing detailed product/service information online			Allowing customers to place orders online			Chi-square
	Not at all important	Somewhat important	Very important	Chi-square	Not at all important	Somewhat important	
Community Size							
Less than 5,000	34	(n = 562) 39	27		55	(n = 558) 31	14
5,000 - 19,999	34	32	33	P ² = 6.79 (.148)	57	28	16
20,000 or more	33	46	21		65	24	11
Business Type							
Agriculture	36	(n = 516) 40	24		52	(n = 513) 30	18
Construction, mfg, transportation	31	52	17		64	28	9
Retail/wholesale trade	34	45	21		53	34	13
Services	33	40	26	P ² = 20.8 (.008)	67	24	10
Other	38	21	41		58	28	14
Business Size							
1 employee	33	(n = 557) 39	28		54	(n = 553) 29	18
2 - 5 employees	36	39	25	P ² = 2.63 (.622)	59	27	14
More than 5 employees	29	43	27		60	30	10
Expertise with Technology							
Non-user	77	(n = 558) 20	3		87	(n = 554) 9	4
Basic/elementary user	36	48	17		61	29	10
Intermediate user	28	44	28	P ² = 99.8 (.000)	56	31	13
Proficient user	17	36	48		44	33	23
Sample Groups							
Main Street participants	13	(n = 557) 38	50		37	(n = 553) 32	31
EDGE participants	27	42	32	P ² = 56.08 (.000)	52	32	16
Random sample	44	40	16		69	24	7

Appendix Table 4 Continued.

	<i>How important do you consider the following e-commerce strategies to be for your business in the future?</i>						<i>Chi-square</i>
	<i>Allowing customers to pay online</i>			<i>Electronic marketing to existing customers</i>			
	<i>Not at all important</i>	<i>Somewhat important</i>	<i>Very important</i>	<i>Not at all important</i>	<i>Somewhat important</i>	<i>Very important</i>	
	<i>Percentages</i>						
Community Size		(n = 559)			(n = 560)		
Less than 5,000	62	27	11	49	34	17	
5,000 - 19,999	62	28	10	50	33	17	P ² = 1.37 (.849)
20,000 or more	67	20	13	51	36	13	
Business Type		(n = 514)			(n = 514)		
Agriculture	64	23	13	52	34	14	
Construction, mfg, transportation	62	29	9	60	24	16	
Retail/wholesale trade	58	31	11	44	45	11	
Services	71	20	9	52	36	12	P ² = 16.91 (.031)
Other	60	29	11	45	29	26	
Business Size		(n = 554)			(n = 554)		
1 employee	61	30	9	47	36	17	
2 - 5 employees	66	21	13	53	30	17	P ² = 5.62 (.229)
More than 5 employees	60	29	11	47	41	13	
Expertise with Technology		(n = 555)			(n = 556)		
Non-user	91	7	1	88	9	3	
Basic/elementary user	63	29	9	57	34	10	
Intermediate user	61	27	12	44	40	16	P ² = 71.04 (.000)
Proficient user	52	29	19	31	40	29	
Sample Groups		(n = 554)			(n = 555)		
Main Street participants	43	32	25	26	43	31	
EDGE participants	60	26	14	41	40	20	P ² = 50.49 (.000)
Random sample	72	23	5	62	30	8	

Appendix Table 4 Continued.

<i>How important do you consider the following e-commerce strategies to be for your business in the future?</i>								
<i>Being able to place orders online with your suppliers</i>			<i>Providing customers with ability to track orders</i>					
	<i>Not at all important</i>	<i>Somewhat important</i>	<i>Very important</i>	<i>Chi-square</i>	<i>Not at all important</i>	<i>Somewhat important</i>	<i>Very important</i>	<i>Chi-square</i>
					<i>Percentages</i>			
Community Size								
Less than 5,000	43	(n = 556) 34	23		67	(n = 554) 24	9	
5,000 - 19,999	45	33	22	P ² = 0.84 (.933)	69	19	13	P ² = 4.25 (.373)
20,000 or more	47	33	20		68	19	13	
Business Type								
Agriculture	41	(n = 510) 39	21		68	(n = 509) 22	10	
Construction, mfg, transportation	49	37	14		66	21	13	
Retail/wholesale trade	37	36	27		58	28	14	
Services	50	33	18	P ² = 9.55 (.298)	78	16	7	P ² = 13.52 (.095)
Other	46	29	25		70	20	10	
Business Size								
1 employee	42	(n = 552) 36	22		73	(n = 550) 19	8	
2 - 5 employees	45	32	23	P ² = 0.70 (.951)	69	19	12	P ² = 7.46 (.114)
More than 5 employees	44	34	22		61	28	11	
Expertise with Technology								
Non-user	83	(n = 553) 12	6		90	(n = 550) 6	4	
Basic/elementary user	45	38	17		71	23	7	
Intermediate user	41	35	24	P ² = 59.81 (.000)	65	23	12	P ² = 28.20 (.000)
Proficient user	28	38	34		55	27	18	
Sample Groups								
Main Street participants	33	(n = 551) 38	29		54	(n = 549) 29	17	
EDGE participants	35	38	27	P ² = 22.80 (.000)	64	25	11	P ² = 14.71 (.005)
Random sample	54	29	17		74	17	9	

Appendix Table 4 Continued.

		<i>How important do you consider the following e-commerce strategies to be for your business in the future?</i>							
		<i>Capability to provide secure online transactions</i>		<i>Providing customers online account information</i>					
		<i>Not at all important</i>	<i>Somewhat important</i>	<i>Very important</i>	<i>Chi-square</i>	<i>Not at all important</i>	<i>Somewhat important</i>	<i>Very important</i>	<i>Chi-square</i>
		<i>Percentages</i>							
Community Size			(n = 555)				(n = 555)		
	Less than 5,000	53	25	23		65	23	12	
	5,000 - 19,999	57	17	26	P ² = 5.02 (.285)	65	21	15	P ² = 0.49 (.974)
	20,000 or more	58	17	24		64	23	14	
Business Type			(n = 511)				(n = 511)		
	Agriculture	63	17	21		71	14	15	
	Construction, mfg, transportation	56	23	21		71	21	9	
	Retail/wholesale trade	49	24	27		61	30	9	
	Services	61	22	18	P ² = 9.21 (.325)	65	21	14	P ² = 10.19 (.252)
	Other	49	21	30		63	23	15	
Business Size			(n = 551)				(n = 550)		
	1 employee	56	22	22		73	16	10	
	2 - 5 employees	57	19	24	P ² = 1.97 (.741)	62	24	14	P ² = 6.56 (.161)
	More than 5 employees	51	23	26		60	25	15	
Expertise with Technology			(n = 551)				(n = 551)		
	Non-user	91	7	2		91	7	1	
	Basic/elementary user	54	24	22		71	18	12	
	Intermediate user	52	21	28	P ² = 47.74 (.000)	59	25	16	P ² = 34.28 (.000)
	Proficient user	42	28	31		53	31	16	
Sample Groups			(n = 550)				(n = 550)		
	Main Street participants	38	21	41		52	34	14	
	EDGE participants	52	24	24	P ² = 20.47 (.000)	63	23	15	P ² = 10.56 (.032)
	Random sample	61	20	19		69	19	12	

Appendix Table 5. Skill Level in Doing Various E-commerce Strategies by Community Size and Business Characteristics

How would you rate your business's skill level in doing each of the following?

Providing detailed product/service information online

Allowing customers to place orders online

	Providing detailed product/service information online					Allowing customers to place orders online				
	Don't Do	Basic	Intermediate	Expert	Chi-square	Don't Do	Basic	Intermediate	Expert	Chi-square
Community Size					<i>Percentages</i>					
Less than 5,000	66	21	10	3	(n = 562)	84	11	2	2	(n = 560)
5,000 - 19,999	59	12	21	8		85	9	4	2	
20,000 or more	65	16	14	5		87	5	5	3	
										$P^2 = 15.3$ (.018)
										$P^2 = 7.2$ (.306)
Business Type										
Agriculture	73	16	11	0	(n = 514)	91	8	1	0	(n = 513)
Construction, mfg, transportation	68	14	14	4		86	7	4	4	
Retail/wholesale trade	71	19	8	2		86	11	2	2	
Services	58	21	14	7		84	8	6	2	
Other	61	14	20	6		86	11	0	3	
										$P^2 = 11.8$ (.463)
Business Size										
1 employee	70	17	10	4	(n = 557)	86	8	5	2	(n = 555)
2 - 5 employees	66	17	12	5		85	9	2	3	
More than 5 employees	57	20	17	5		85	10	3	2	
										$P^2 = 6.9$ (.330)
										$P^2 = 2.5$ (.864)
Expertise with Technology										
Non-user	96	1	3	0	(n = 558)	99	0	1	0	(n = 556)
Basic/elementary user	77	17	6	0		92	7	1	1	
Intermediate user	58	21	17	4		83	10	4	3	
Proficient user	43	22	21	14		74	17	5	4	
										$P^2 = 29.1$ (.001)

Appendix Table 5 Continued.

		<i>How would you rate your business's skill level in doing each of the following?</i>								
		<i>Allowing customers to pay online</i>			<i>Electronic marketing to existing customers</i>					
<i>Don't</i>		<i>Basic</i>	<i>Intermediate</i>	<i>Expert</i>	<i>Chi-square</i>	<i>Don't</i>	<i>Basic</i>	<i>Intermediate</i>	<i>Expert</i>	<i>Chi-square</i>
<i>Do</i>						<i>Do</i>				
		<i>Percentages</i>								
<i>Community Size</i>			(n = 561)				(n = 563)			
Less than 5,000	90	8	1	1		78	15	5	2	
5,000 - 19,999	91	4	0	5	P ² = 15.0	72	11	12	4	P ² = 8.6
20,000 or more	94	1	2	3	(.020)	80	12	6	3	(.198)
<i>Business Type</i>			(n = 514)				(n = 516)			
Agriculture	96	4	0	0		84	13	3	0	
Construction, mfg, transportation	89	5	2	4		75	16	5	4	
Retail/wholesale trade	93	4	1	3		84	11	4	1	
Services	90	6	2	2	P ² = 6.6	74	15	9	2	P ² = 17.6
Other	93	5	0	3	(.880)	73	11	10	6	(.128)
<i>Business Size</i>			(n = 556)				(n = 557)			
1 employee	94	5	1	1		82	9	7	2	
2 - 5 employees	91	4	1	3	P ² = 3.8	81	13	3	3	P ² = 16.9
More than 5 employees	90	6	2	2	(.705)	69	17	11	2	(.010)
<i>Expertise with Technology</i>			(n = 557)				(n = 559)			
Non-user	99	0	1	0		99	0	1	0	
Basic/elementary user	97	2	0	1		86	11	2	1	
Intermediate user	89	6	3	3	P ² = 25.2	76	15	7	2	P ² = 58.7
Proficient user	85	9	0	6	(.003)	59	20	14	8	(.000)

Appendix Table 5 Continued.

	<i>How would you rate your business's skill level in doing each of the following?</i>									
	<i>Reaching new customers</i>					<i>Customer service and support through web site</i>				
	<i>Don't Do</i>	<i>Basic</i>	<i>Intermediate</i>	<i>Expert</i>	<i>Chi-square</i>	<i>Don't Do</i>	<i>Basic</i>	<i>Intermediate</i>	<i>Expert</i>	<i>Chi-square</i>
<i>Community Size</i>					<i>Percentages</i>					
Less than 5,000	60	26	(n = 564)	3		76	15	(n = 558)	3	
5,000 - 19,999	59	17		4	P ² = 9.6	76	12		5	P ² = 4.4
20,000 or more	66	20		4	(.143)	75	15		5	(.629)
<i>Business Type</i>										
Agriculture	67	21	(n = 517)	1		84	11	(n = 512)	1	
Construction, mfg, transportation	58	23		4		77	18		4	
Retail/wholesale trade	71	20		1		79	15		1	
Services	60	21		4	P ² = 12.0	73	17		6	P ² = 18.4
Other	56	24		6	(.444)	71	11		5	(.105)
<i>Business Size</i>										
1 employee	64	21	(n = 558)	2		82	10	(n = 553)	3	
2 - 5 employees	66	22		4	P ² = 11.9	76	14		4	P ² = 6.3
More than 5 employees	53	25		4	(.064)	70	19		5	(.389)
<i>Expertise with Technology</i>										
Non-user	95	5	(n = 560)	0		99	0	(n = 554)	0	
Basic/elementary user	71	23		2		85	12		2	
Intermediate user	57	26		3	P ² = 83.1	73	16		4	P ² = 57.7
Proficient user	39	26		8	(.000)	55	24		10	(.000)

Appendix Table 5 Continued.

		<i>How would you rate your business's skill level in doing each of the following?</i>								
		<i>Placing orders online with your suppliers</i>			<i>Providing customers with ability to track orders</i>					
	<i>Don't Do</i>	<i>Basic</i>	<i>Intermediate</i>	<i>Expert</i>	<i>Chi-square</i>	<i>Don't Do</i>	<i>Basic</i>	<i>Intermediate</i>	<i>Expert</i>	<i>Chi-square</i>
Community Size			(n = 560)					(n = 555)		
Less than 5,000	63	21	9	7		88	9	1	1	
5,000 - 19,999	62	22	10	6	P ² = 1.1	91	4	3	2	P ² = 13.1
20,000 or more	64	19	11	7	(.983)	91	2	4	2	(.041)
Business Type			(n = 513)					(n = 509)		
Agriculture	68	24	7	1		95	5	0	0	
Construction, mfg, transportation	71	13	9	7		88	4	5	4	
Retail/wholesale trade	58	23	12	7		91	7	1	2	
Services	60	24	8	8	P ² = 14.0	90	6	3	1	P ² = 9.9
Other	66	13	13	9	(.302)	90	6	3	1	(.621)
Business Size			(n = 555)					(n = 550)		
1 employee	70	19	6	5		93	5	2	0	
2 - 5 employees	64	20	8	8	P ² = 10.6	89	6	2	3	P ² = 5.8
More than 5 employees	56	23	15	6	(.102)	87	8	3	2	(.445)
Expertise with Technology			(n = 556)					(n = 552)		
Non-user	97	1	1	0		99	0	1	0	
Basic/elementary user	67	27	6	0		95	5	0	0	
Intermediate user	61	21	11	8	P ² = 82.8	88	7	3	3	P ² = 27.4
Proficient user	42	26	15	17	(.000)	79	11	6	4	(.001)

Appendix Table 5 Continued.

		<i>How would you rate your business's skill level in doing each of the following?</i>								
		<i>Capability to provide secure online transactions</i>			<i>Providing customers online account information</i>					
	<i>Don't Do</i>	<i>Basic</i>	<i>Intermediate</i>	<i>Expert</i>	<i>Chi-square</i>	<i>Don't Do</i>	<i>Basic</i>	<i>Intermediate</i>	<i>Expert</i>	<i>Chi-square</i>
Community Size			(n = 555)					(n = 557)		
Less than 5,000	85	10	3	2		89	7	3	1	
5,000 - 19,999	90	3	2	5	P ² = 8.7	86	3	5	6	P ² = 15.6
20,000 or more	88	7	2	4	(.190)	92	4	1	3	(.016)
Business Type			(n = 510)					(n = 512)		
Agriculture	92	7	0	1		95	5	0	0	
Construction, mfg, transportation	86	7	4	4		93	4	2	2	
Retail/wholesale trade	89	7	3	2		92	6	3	0	
Services	86	8	3	3	P ² = 4.9	85	7	3	5	P ² = 19.3
Other	84	9	4	4	(.961)	92	1	5	1	(.082)
Business Size			(n = 550)					(n = 552)		
1 employee	90	7	2	1		95	2	2	1	
2 - 5 employees	87	8	2	4	P ² = 8.1	88	6	3	4	P ² = 10.8
More than 5 employees	83	8	5	3	(.231)	88	8	2	2	(.096)
Expertise with Technology			(n = 551)					(n = 553)		
Non-user	99	0	1	0		99	0	1	0	
Basic/elementary user	89	9	1	1		94	4	0	2	
Intermediate user	86	8	3	3	P ² = 22.3	87	8	3	3	P ² = 22.7
Proficient user	78	10	5	6	(.008)	84	5	6	5	(.007)

Appendix Table 6. Decisions to Expand or Restructure Business Using Information Technology by Community Size and Business Characteristics

		<i>Are you considering using information technology to expand or restructure your business in the future?</i>		
		<i>Yes</i>	<i>No</i>	<i>Chi-square</i>
		<i>Percentages</i>		
<i>Community Size</i>		(n = 552)		
	Less than 5,000	45	55	
	5,000 - 19,999	39	61	P ² = 1.89
	20,000 or more	39	61	(.389)
<i>Business Type</i>		(n = 505)		
	Agriculture	49	51	
	Construction, mfg, transportation	43	57	
	Retail/wholesale trade	41	59	
	Services	42	58	P ² = 2.63
	Other	36	64	(.622)
<i>Business Size</i>		(n = 549)		
	1 employee	41	59	
	2 - 5 employees	40	60	P ² = 0.70
	More than 5 employees	44	56	(.705)
<i>Expertise with Technology</i>		(n = 549)		
	Non-user	16	84	
	Basic/elementary user	42	58	
	Intermediate user	44	56	P ² = 27.50
	Proficient user	54	46	(.000)

Appendix Table 7. Extent Items are Barriers to Using E-commerce in Business by Community Size and Business Characteristics

To what extent are each of the following items barriers to you using e-commerce practices in your business?

	Knowledge of e-commerce practices				Bandwidth			Chi-square
	<i>Not at all</i>	<i>To some extent</i>	<i>To a great extent</i>	Chi-square	<i>Not at all</i>	<i>To some extent</i>	<i>To a great extent</i>	
Community Size				<i>Percentages</i>				
Less than 5,000	31	(n = 471) 47	23		47	(n = 422) 26	28	P ² = 2.84 (.585)
5,000 - 19,999	33	47	19	P ² = 5.11	52	27	21	
20,000 or more	39	36	25	(.276)	54	25	21	
Business Type		(n = 434)				(n = 390)		
Agriculture	32	42	26		51	23	26	
Construction, mfg, transportation	27	46	27		46	24	29	
Retail/wholesale trade	34	43	24		52	30	18	
Services	33	45	22	P ² = 2.59	47	25	28	P ² = 4.48
Other	37	45	18	(.957)	54	20	26	(.811)
Business Size		(n = 470)				(n = 421)		
1 employee	30	41	29		50	13	37	
2 - 5 employees	38	44	18	P ² = 6.42	51	27	22	P ² = 18.14
More than 5 employees	29	46	25	(.170)	48	33	19	(.001)
Expertise with Technology		(n = 468)				(n = 420)		
Non-user	62	9	28		75	9	17	
Basic/elementary user	24	37	39		45	25	31	
Intermediate user	26	54	20	P ² = 65.88	46	29	25	P ² = 16.07
Proficient user	43	48	9	(.000)	51	28	21	(.013)

Appendix Table 7 Continued.

		<i>To what extent are each of the following items barriers to you using e-commerce practices in your business?</i>			<i>Cost of developing and maintaining an Internet system</i>				
		<i>Lack of time to implement and/or maintain web site</i>			<i>Cost of developing and maintaining an Internet system</i>				
		<i>Not at all</i>	<i>To some extent</i>	<i>To a great extent</i>	<i>Chi-square</i>	<i>Not at all</i>	<i>To some extent</i>	<i>To a great extent</i>	<i>Chi-square</i>
					<i>Percentages</i>				
Community Size			(n = 472)				(n = 478)		
	Less than 5,000	24	31	45		25	41	34	
	5,000 - 19,999	32	30	39	P ² = 7.98	39	32	29	P ² = 13.99
	20,000 or more	36	30	35	(.092)	41	36	23	(.007)
Business Type			(n = 432)				(n = 436)		
	Agriculture	25	33	42		30	36	33	
	Construction, mfg, transportation	29	31	41		31	35	35	
	Retail/wholesale trade	28	20	52		30	33	38	
	Services	30	33	37	P ² = 8.21	33	41	26	P ² = 6.48
	Other	32	29	38	(.413)	35	42	23	(.594)
Business Size			(n = 471)				(n = 475)		
	1 employee	27	30	43		30	32	38	
	2 - 5 employees	31	31	38	P ² = 2.14	31	41	28	P ² = 6.18
	More than 5 employees	26	30	44	(.710)	35	39	26	(.186)
Expertise with Technology			(n = 469)				(n = 475)		
	Non-user	62	11	26		61	13	26	
	Basic/elementary user	23	25	52		25	33	43	
	Intermediate user	23	35	42	P ² = 40.91	26	48	26	P ² = 41.05
	Proficient user	28	36	36	(.000)	36	36	27	(.000)

Appendix Table 7 Continued.

		<i>To what extent are each of the following items barriers to you using e-commerce practices in your business?</i>							
		<i>Lack of employees with the necessary technology skills</i>		<i>Lack of local companies to provide technical assistance</i>					
		<i>Not at all</i>	<i>To some extent</i>	<i>To a great extent</i>	<i>Chi-square</i>	<i>Not at all</i>	<i>To some extent</i>	<i>To a great extent</i>	<i>Chi-square</i>
		<i>Percentages</i>							
Community Size									
Less than 5,000		34	(n = 470)	30		41	(n = 456)	21	
5,000 - 19,999		42	33	25	P ² = 1.93	43	38	18	P ² = 8.02
20,000 or more		39	33	28	(.749)	55	31	13	(.091)
Business Type									
Agriculture		44	(n = 431)	28		46	(n = 422)	25	
Construction, mfg, transportation		34	34	32		42	42	17	
Retail/wholesale trade		30	40	31		43	43	13	
Services		38	34	28	P ² = 4.53	45	35	20	P ² = 6.36
Other		38	35	27	(.806)	51	33	16	(.607)
Business Size									
1 employee		51	(n = 467)	29		52	(n = 454)	19	
2 - 5 employees		36	36	29	P ² = 23.44	44	38	19	P ² = 4.00
More than 5 employees		26	46	28	(.000)	42	41	17	(.406)
Expertise with Technology									
Non-user		71	(n = 467)	17		75	(n = 454)	13	
Basic/elementary user		32	24	44		45	32	23	
Intermediate user		30	39	30	P ² = 54.13	38	44	18	P ² = 24.99
Proficient user		37	47	16	(.000)	46	37	17	(.000)

Appendix Table 7 Continued.

		<i>To what extent are each of the following items barriers to you using e-commerce practices in your business?</i>			<i>Products aren't suited to online selling</i>		
		<i>Risk of viruses/hackers accessing confidential information</i>			<i>Products aren't suited to online selling</i>		
		<i>To some extent</i>	<i>To a great extent</i>	<i>Chi-square</i>	<i>Not at all</i>	<i>To some extent</i>	<i>To a great extent</i>
		<i>Not at all</i>	<i>To some extent</i>	<i>To a great extent</i>	<i>Not at all</i>	<i>To some extent</i>	<i>To a great extent</i>
		<i>Percentages</i>					
		<i>Chi-square</i>	<i>To some extent</i>	<i>To a great extent</i>	<i>Chi-square</i>	<i>To some extent</i>	<i>To a great extent</i>
Community Size			(n = 470)			(n = 479)	
Less than 5,000	33	36	32	35	28	38	
5,000 - 19,999	36	45	20	38	25	37	P ² = 0.59
20,000 or more	42	34	25	37	26	37	(.964)
Business Type			(n = 432)			(n = 442)	
Agriculture	39	26	36	34	25	40	
Construction, mfg, transportation	33	35	33	27	25	49	
Retail/wholesale trade	31	38	31	42	33	25	
Services	35	40	25	34	24	42	P ² = 11.55
Other	47	36	17	38	24	38	(.172)
Business Size			(n = 467)			(n = 476)	
1 employee	36	38	26	41	26	33	
2 - 5 employees	38	31	31	37	28	35	P ² = 5.84
More than 5 employees	31	45	24	29	26	44	(.211)
Expertise with Technology			(n = 468)			(n = 476)	
Non-user	67	16	18	55	13	32	
Basic/elementary user	30	28	42	29	30	41	
Intermediate user	33	39	28	37	26	37	P ² = 13.81
Proficient user	32	50	18	31	33	36	(.032)

Appendix Table 7 Continued.

To what extent are each of the following items barriers to you using e-commerce practices in your business?

Prefer personal contact with customers

	<i>Not at all</i>	<i>To some extent</i>	<i>To a great extent</i>	<i>Chi-square</i>
	<i>Percentages</i>			
Community Size		(n = 486)		
Less than 5,000	20	31	49	
5,000 - 19,999	24	20	57	P ² = 4.10
20,000 or more	23	28	49	(.393)
Business Type		(n = 446)		
Agriculture	27	33	39	
Construction, mfg, transportation	18	22	60	
Retail/wholesale trade	26	23	51	
Services	17	30	52	P ² = 8.89
Other	21	31	48	(.352)
Business Size		(n = 482)		
1 employee	25	29	46	
2 - 5 employees	21	27	52	P ² = 2.78
More than 5 employees	18	30	52	(.595)
Expertise with Technology		(n = 483)		
Non-user	46	9	46	
Basic/elementary user	16	25	59	
Intermediate user	19	33	48	P ² = 30.66
Proficient user	18	32	50	(.000)

Appendix Table 8. Interest in Learning About E-Commerce Topics by Community Size and Business Characteristics

	<i>How interested would you be in learning about the following topics?</i>				<i>Chi-square</i>	<i>Chi-square</i>	
	<i>Web application development/hosting</i>	<i>Not at all interested</i>	<i>Somewhat interested</i>	<i>Very interested</i>			<i>How to find vendors/suppliers through the Internet</i>
Community Size							
Less than 5,000	40	(n = 540) 37	23	45	(n = 540) 38	17	
5,000 - 19,999	49	37	14	48	38	14	P ² = 6.56 (.161)
20,000 or more	58	30	11	52	39	9	
Business Type							
Agriculture	39	(n = 497) 43	18	38	(n = 497) 47	15	
Construction, mfg, transportation	64	21	14	50	39	11	
Retail/wholesale trade	45	35	21	35	46	19	
Services	47	39	14	56	35	9	P ² = 18.61 (.017)
Other	51	27	22	53	32	15	
Business Size							
1 employee	46	(n = 536) 37	17	51	(n = 536) 36	13	
2 - 5 employees	47	33	21	48	39	14	P ² = 1.26 (.869)
More than 5 employees	48	38	14	44	41	15	
Expertise with Technology							
Non-user	82	(n = 536) 12	6	76	(n = 536) 18	6	
Basic/elementary user	49	33	18	35	48	17	
Intermediate user	42	41	18	44	43	13	P ² = 32.49 (.000)
Proficient user	35	40	25	50	34	17	

Appendix Table 8 Continued.

		<i>How interested would you be in learning about the following topics?</i>							
		<i>Setting up an online ordering system (shopping cart)</i>			<i>Establishing a merchant account and processing online payments</i>				
		<i>Not at all interested</i>	<i>Somewhat interested</i>	<i>Very interested</i>	<i>Chi-square</i>	<i>Not at all interested</i>	<i>Very interested</i>	<i>Chi-square</i>	
		<i>Percentages</i>							
Community Size			(n = 541)			(n = 540)			
Less than 5,000		57	26	17		60	13		
5,000 - 19,999		63	23	14	P ² = 12.25	64	13	P ² = 7.78	
20,000 or more		70	24	6	(.016)	72	7	(.100)	
Business Type			(n = 497)			(n = 496)			
Agriculture		58	29	14		58	11		
Construction, mfg, transportation		64	29	7		66	7		
Retail/wholesale trade		51	30	20		58	16		
Services		70	21	8	P ² = 18.19	73	8	P ² = 12.37	
Other		65	18	18	(.020)	60	13	(.136)	
Business Size			(n = 537)			(n = 537)			
1 employee		63	24	13		66	11		
2 - 5 employees		62	24	15	P ² = 1.71	66	13	P ² = 5.00	
More than 5 employees		62	28	11	(.789)	59	10	(.287)	
Expertise with Technology			(n = 537)			(n = 537)			
Non-user		89	8	3		88	5		
Basic/elementary user		62	24	14		69	8		
Intermediate user		60	30	11	P ² = 34.15	62	11	P ² = 33.56	
Proficient user		52	26	22	(.000)	48	20	(.000)	

Appendix Table 8 Continued.

	<i>How interested would you be in learning about the following topics?</i>							
	<i>Establishing a secure payment system</i>			<i>Setting up a customer communication center</i>				
	<i>Not at all interested</i>	<i>Somewhat interested</i>	<i>Very interested</i>	<i>Chi-square</i>	<i>Not at all interested</i>	<i>Somewhat interested</i>	<i>Very interested</i>	<i>Chi-square</i>
	<i>Percentages</i>							
<i>Community Size</i>		(n = 539)			(n = 534)			
Less than 5,000	55	29	16		55	31	15	
5,000 - 19,999	61	24	15	P ² = 9.44	64	24	12	P ² = 6.93
20,000 or more	68	23	9	(.051)	64	28	8	(.140)
<i>Business Type</i>		(n = 494)			(n = 491)			
Agriculture	55	27	18		57	22	21	
Construction, mfg, transportation	68	27	5		57	38	5	
Retail/wholesale trade	57	24	19		54	33	13	
Services	66	25	10	P ² = 13.67	63	29	8	P ² = 16.89
Other	53	33	14	(.091)	63	20	17	(.031)
<i>Business Size</i>		(n = 536)			(n = 530)			
1 employee	62	25	13		60	30	10	
2 - 5 employees	59	26	15	P ² = 1.83	62	24	15	P ² = 7.41
More than 5 employees	58	30	12	(.767)	55	35	10	(.116)
<i>Expertise with Technology</i>		(n = 535)			(n = 530)			
Non-user	85	9	6		86	11	3	
Basic/elementary user	66	22	12		62	30	8	
Intermediate user	58	29	13	P ² = 37.59	59	28	13	P ² = 37.26
Proficient user	41	37	22	(.000)	42	39	19	(.000)

Appendix Table 8 Continued.

	<i>How interested would you be in learning about the following topics?</i>					<i>Chi-square</i>	<i>P²</i>
	<i>Online banking and other financial services</i>		<i>Using the Internet for inventory control/management</i>				
	<i>Not at all interested</i>	<i>Somewhat interested</i>	<i>Very interested</i>	<i>Not at all interested</i>	<i>Somewhat interested</i>	<i>Very interested</i>	<i>Chi-square</i>
	<i>Percentages</i>						
<i>Community Size</i>		(n = 537)			(n = 539)		
Less than 5,000	56	34	10	66	24	10	
5,000 - 19,999	66	26	9	75	13	12	P ² = 12.19
20,000 or more	64	30	6	72	24	4	(.016)
<i>Business Type</i>		(n = 492)			(n = 495)		
Agriculture	51	34	15	68	18	15	
Construction, mfg, transportation	73	22	6	73	24	4	
Retail/wholesale trade	62	31	7	60	30	10	
Services	55	38	7	73	22	5	P ² = 15.30
Other	65	26	9	69	18	13	(.053)
<i>Business Size</i>		(n = 534)			(n = 535)		
1 employee	66	27	7	73	19	8	
2 - 5 employees	59	32	9	71	20	9	P ² = 6.37
More than 5 employees	57	34	9	63	29	8	(.173)
<i>Expertise with Technology</i>		(n = 533)			(n = 535)		
Non-user	85	11	5	82	12	6	
Basic/elementary user	62	31	7	67	24	9	
Intermediate user	54	37	10	68	24	8	P ² = 6.77
Proficient user	56	34	10	66	24	10	(.342)

Appendix Table 8 Continued.

	<i>How interested would you be in learning about the following topics?</i>					Chi-square	
	<i>Using the Internet for customer information/support</i>		<i>Marketing your web site</i>				
	<i>Not at all interested</i>	<i>Somewhat interested</i>	<i>Very interested</i>	<i>Not at all interested</i>	<i>Somewhat interested</i>	<i>Very interested</i>	<i>Chi-square</i>
	<i>Percentages</i>						
Community Size		(n = 540)			(n = 542)		
Less than 5,000	41	40	19	42	30	28	
5,000 - 19,999	51	33	16	48	28	24	P ² = 8.02
20,000 or more	54	35	11	54	28	18	(.091)
Business Type		(n = 496)			(n = 497)		
Agriculture	49	26	26	46	24	30	
Construction, mfg, transportation	55	36	9	54	29	18	
Retail/wholesale trade	41	43	15	44	33	23	
Services	48	38	14	49	30	21	P ² = 7.01
Other	44	38	18	42	27	31	(.535)
Business Size		(n = 537)			(n = 538)		
1 employee	50	33	16	52	26	23	
2 - 5 employees	47	37	17	47	28	25	P ² = 3.64
More than 5 employees	43	42	15	42	34	24	(.457)
Expertise with Technology		(n = 536)			(n = 538)		
Non-user	75	18	8	84	10	6	
Basic/elementary user	48	36	17	47	33	19	
Intermediate user	43	40	18	42	31	27	P ² = 49.16
Proficient user	37	45	18	34	34	33	(.000)