

Nebraska BusinessLink: Small Business Use of the Internet

A report compiled by the
Applied Information Management Institute



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Introduction

Historically, business in mid-continent locations tended to be disadvantaged in national and international trade by time and distance. In earlier times, cities grew according to their proximity to rivers and harbors. Rail transportation further opened the prairie. In more recent times, interstate highways and airports have been major engines of economic growth. Over the last century, telegraph, telephone, radio, and television have also reduced the disadvantage of distance for business, personal communication, and entertainment. All these changes in transportation and communications technology connected people and markets in ways that reduced the disadvantage of distance by reducing the time to market.

Today, however, the convergence of the above communications with computer technologies is creating a business climate that substantially removes any disadvantage of distance and time for a broad array of Nebraska business and commerce. Today, Nebraskans can have access to the national and global markets as easily as they can access customers down the street. The digitization of the world's knowledge combined with the ubiquitous networks gives Nebraskans equal footing to access information, perform financial transactions, or present their products and services to global markets. We are entering an era in which increasing amounts of business and commerce will be conducted electronically, leading to the new term "electronic commerce."

Broadly defined, electronic commerce is any business activity that involves communication and computer technologies to complete business transactions. It may include Internet web sites; electronic mail; electronic data interchange (EDI); financial transactions; Internet research, etc. Nebraskans are adapting to these technologies quickly. AIM recently completed a study to document electronic trends for smaller firms across the state. Results from this research will help companies and policy makers adopt policies and practices that will encourage this trend in such a way as to assure competitive use, increased participation, and a growing market share in national and global markets.

Research Objective

Document the use of electronic commerce technologies by small companies in greater Nebraska.

Research Methodology

Interviews were conducted with 42 firms across greater Nebraska. Interviews were based on an AIM developed survey.

Findings

Three major categories or groupings of companies were identified based upon use of electronic commerce technologies - primarily Internet. Those three groupings were:

- Web users - 20 firms with effective web page, e-mail, plus plans and strategies for electronic business.
- Internet access but no website - 11 companies primarily with e-mail and Internet used for research.
- No Internet experience/access - 11 companies.

Table 1 documents that the firms with successful websites were larger, on average, and had more operating sites. Some of these firms with websites, however, were small. Employment at these 20 firms with websites ranged from only 2 to 900 employees. The existence of more business locations, on average, suggests a greater use of Internet communication between company locations.

**Table 1
Firm Size and Operating Locations**

	Total Employment	Average Employment	Number of Business Sites
20 Successful Internet Web Users (19 firms reporting employment numbers)	2,570	136	5
11 Internet Users – No Website (10 firms reporting employment numbers)	721	72	3
11 Companies with No Internet Experience (10 firms reporting employment numbers)	224	22.4	2.4

Table 2 shows a fairly wide range of principal business activity for all firms participating in the study. Those with successful web sites were distributed across all types of business. The pattern, however, was not substantially different from those with only Internet access and those with no Internet experience.

**Table 2
Business Activity of Participants**

	Manu- facturing	Computer Software	Financial/ Financial Services	Business Services	Publishing	Wholesale/ Retail	Hotel/Food Service
Successful Internet Web Users	7	2	3	-	3	2	3
Internet Users – No Website	4	-	2	1	1	3	-
No Internet Experience	4	-	2	1	-	3	1

A. Type and Scope of Market

Firms typically serve two types of customers:

- Business and Business Customers
- Individuals or Consumers

The scope of the markets each firm could seek to serve are defined as:

- International
- National
- Regional
- Local

Table 3 summarizes the type and scope of markets served by these firms. Nearly 75% of the businesses with successful web sites used them for business-to-business activity. They sold to other businesses, municipal cities, school districts or other non-individual entities. This business-to-business activity included sales, information, financial transactions, service information, etc.

In addition, three-fourths of those firms also viewed their highest level market as either international or national. Internet web technology is uniquely suited to reach other businesses, which are more likely to be using web technology themselves.

Nebraska firms that had Internet access but no website, and those with no Internet experience tended to be more closely aligned to regional and local markets. In addition, one-half were basically retail businesses that served individuals or consumers of their product. The interviews noted that these firms faced two significant problems in the use of the Internet:

- Their local customers frequently did not use the Internet in their businesses and homes.
- They had difficulty visualizing what web services would be attractive to their local customers.

Table 3
Type and Scope of Market Faced by Firms

	Market Type ¹		Scope: ² Highest Level of Market Reached	
Successful Internet Web Users	Business-to-Business	14	International	4
	Individuals or Consumers	9	National	11
			Regional	3
			Local	2
Internet Users – No Website	Business-to-Business	7	International	2
	Individuals or Consumers	6	National	1
			Regional	2
			Local	6

	Market Type ¹		Scope: ² Highest Level of Market Reached	
No Internet Experience	Business-to-Business	5	International	0
	Individuals or Consumers	6	National	0
			Regional	6
			Local	5

¹ Market Type - If firms sold into both market types they were recorded in each type (sold both wholesale to dealers and retail to final customers).

² Scope - Firms were classified based upon the highest level of market reached.

B. Internet Use

The way Internet and web sites are used is varied and extensive.

- Sales
- Reservations
- Marketing
 - low cost advertising
 - present picture/description of products
 - prospecting/sales
- E-mail
 - allows quicker communication with staff/employees
 - allows quicker communication with customers
- Electronic Catalog
- Training
 - used to get training from community colleges/others
- Customer Information
 - list dealers of products
 - sales tracking
 - technical specifications
- Electronic Distribution (software)
- Research

Marketing on the Internet is effective for several Nebraska firms. This low cost approach to present their products and services to national and international markets is yielding excellent dividends for several Nebraska firms. For example, Laser Products and Services Group in Beatrice is now selling recharged laser cartridges in Portugal, Chile, and Canada. Agromac in Gering manufactures potato planting and harvesting equipment that is marketed through a forty-dealer network. They wanted to be the first potato equipment company on the web and have had one sale via the Internet so far. Nebraska has two fire truck manufacturing companies with websites - Danko Emergency Equipment and Smead Manufacturing - both in Synder.

C. Additional Needs

Respondents were asked to identify additional needs to effectively use the Internet. The responses fell into three major categories:

- Technical problems
- Management
- Market/effective use

Table 4 shows that all users listed “resolution of technical problems” as their greatest need. However, the nature of those technical problems varied considerably between the successful users, those with Internet access but no web site, and those with no Internet access. The needs of heavy users of Internet are based upon their experiences and informed expectations. Their problems included improved service from Internet service providers, limitations of slow line speeds, the need for simple Internet addresses, and more links to other web sites. Those not using the Internet needed to know such things as market potential, how to get connection, how to develop a web site, services that work on the Internet, etc. These findings suggest a wide gap in the need for educational services and training among Nebraska businesses as they learn to use these new technologies.

Management problems also changed as usage expanded. Successful web users were more focused on the need to keep current and to effectively use the technology. “We would like to see more customers on the Internet!”

Table 4 Additional Needs to Effectively Use Internet			
	Technical Problems	Mgmt Problems	Market Problems
Successful Internet Web Users	Better ISP ¹ Line Speed Simple Address More Links	Keeping Current Staff to Develop Staff Buy In	Customers Don’t Use Internet
Internet Users – No Website	Better ISP Support Faster Lines	Staff to Develop Management Buy In	Gov’t EDI/Bid Requirements
No Internet Experience	How to Use Internet		

¹ *ISP = Internet Service provider*

D. More Productive Business Use

Once again, those that are now productively using the Internet tend to have more focused perceptions about how to increase the Internet’s value to their business. Table 5 notes they felt a need for more informed and specific technical support. There was still some need for more management to buy-in, however, their greatest desire was new applications development. For the

experienced users, application plans moved from general marketing type presence to specific web solutions that support mission critical business applications. Such systems included catalogs sales, reservations, order systems, effective “yellow pages,” and ways to buy online.

Firms with less Internet experience were less specific in defining needs. They understood the general marketing and sales potential, but were unable to envision the specific systems and services that support operations and other business objectives. Management and technical needs tended to be more basic “how to” needs, i.e. How to get started? What should I put on the web?

Table 5 More Productive Business Use			
	Predominate Technical Problems	Predominate Mgmt Problems	Predominate Market Problems
Successful Internet Web Users	Faster Access Technical Support	Evidence of Management Value	Develop New Applications Sales Catalogs Order Systems Yellow Pages Reservations What to Buy Online
Internet Users – No Website	Security HTML Education	How to Use/Better Use	Advertising Sales
No Internet Experience	--	Success Stories How to Use	Marketing/ Advertising

E. Education and Training

Nearly all firms experienced the need to stay current and to learn how to use Internet technologies more effectively. As mentioned earlier, as firms become more proficient, their demand for training becomes more focused and specific.

Firms were also asked which method of delivering training they would prefer. The choices were:

- Classroom with instructor present
- Classroom with instruction delivered by television
- Self-paced workbook
- Video
- Interactive, online, computer-based training

Classroom training was clearly the preferred delivery methodology by all 42 respondents. Once again, however, there were variations between the more experienced and less experienced Internet users. Table 6 documents this variation.

Table 6 shows the percentage of firms that reported a specific training technology as one of their top three choices. Interactive, online, computer-based training was a top three choice for

60% of all firms with successful web sites. This data suggests that as experience with the Internet increases, employees will be less intimidated by the technology. The firms looking for even more productive use of the technology will use it for other business functions - including training. Meanwhile, less experienced users of the Internet strongly preferred classroom teaching with a teacher physically present. This interactive teaching method creates the greatest opportunity to get specific questions answered.

**Table 6
Preferred Training Technology¹**

	Classroom	TV Classroom	Self-Paced	Video	Online
Successful Internet Web Users	50%	10%	20%	25%	60%
Internet Users – No Website	73%	27%	36%	27%	27%
No Internet Experience	73%	18%	18%	27%	9%

¹ Each firm reported their top three choices to receive training. This table shows the percentage of firms that reported a specific training technology as one of their top three choices.

F. Outsourcing

One of the attributes of the emerging electronics business climate is the ability to electronically outsource some part of a business process to more cost-effective providers. Conversely, many firms will seek additional contract work from other companies. The survey documents firms' attitudes on these two outsourcing issues:

- Do you have the type of work that could be outsourced to Nebraska teleworkers?
- Would you consider outsourcing to Nebraska teleworkers?

Table 7 summarizes the attitudes of the 42 firms concerning outsourcing to Nebraska teleworkers. These questions assumed a pool of qualified teleworkers exists. Firms with extensive web experience reported more work that could be outsourced and were more willing to use telecommuting or other electronic technologies to get that work done. Once again, it appears that the knowledge of how the Internet works and how those technologies might be applied on a day-to-day basis is better understood as Internet experience grows. Outsourcing to an informed pool of firms/individuals capable of working in this technology environment may be an effective way to attract scarce labor/technical skills to the firm.

**Table 7
Outsourcing to Nebraska Teleworkers**

	Work that Could be Outsourced			Would You Outsource?		
	Yes	No	Uncertain	Yes	No	Uncertain
Successful Internet Web Users	55%	35%	10%	60%	25%	15%
Internet Users – No Website	36%	55%	9%	36%	18%	45%
No Internet Experience	9%	55%	36%	27%	27%	45%

Conclusions

On average, the firms with successful web sites were larger (136 employees) with more business sites (5 operating sites). These averages, however, mask the presence of several very small companies operating from only one location. Market reach, however, appears to be more significant in determining effective use of Internet technology than does size and number of operating sites. Firms that view their market as international or national were most likely to develop an Internet presence. These technologies are an effective and low-cost way to reach customers that would have had no way of knowing about these Nebraska companies and their products and services.

Today, Nebraska firms using the Internet are concentrated in companies doing business-to-business communication. These business-to-business activities focused on business transactions, e-mail communications, product descriptions/pictures, maintenance/customer service, etc.

Several companies that serve at retail levels lamented that “not enough farmers”/“not enough travelers,” etc., use the Internet to be effective in sales and service activities. Companies with local markets trading with retail customers had the least robust opportunities. At the other extreme, firms with a national/international reach doing business with businesses had the greatest opportunities.

These trends will undoubtedly change over time as more businesses and consumers become active and comfortable with the Internet and other communications technologies. The use of electronic commerce options will expand for all Nebraska businesses. Contributing to increased use will be electronic payments, more effective security, directory services, and more “user friendly” web development technologies.

The data also shows that non-users of Internet and web technology have difficulty visualizing how to apply the technology to their business. This is always true of new technology. Early use of electricity was primarily for lights. This single purpose gave way to the diverse uses seen today. Internet and networking technologies will have the same impact on commerce and communication. Experience is required to become informed and creative users. These data suggest early adaptation helps the company to identify subsequent successful and relevant use. This is true even for firms with local consumer-based business. Experience may provide insight to opportunities that lower costs, increase market presence, identify new markets, define new services, etc.

Training is one of those activities in which Internet technologies could increase convenience and lower cost. Sixty percent of firms with successful Internet technologies listed online, interactive, computer-based training as one of their top three choices for new training. This

choice, versus classroom instruction, would not be possible without Internet access and familiarity with the technologies. In addition, training delivered in this manner is less dependent on geography (the classroom's location), time (class schedule), and pace (self-paced). The array of educational content, delivered electronically, is expanding rapidly. Increasingly, the Internet is being populated with "How to do it" sites. Visiting other web sites on the net is also very instructive in anticipating services and products a firm may choose to present on the web. Also, surfing the web is an excellent way to gather ideas about the "look and feel" you would like for your firm to present in cyberspace.

Firms with successful web sites were more likely to understand what part of their workflow could be completed electronically by other providers. They also were more likely to use such resources if they were available. From an economic development perspective, Nebraskans using Nebraskans to complete work electronically could be an effective way to transcend the distance and time of a large rural state.

There are also growing opportunities for the Internet service providers (ISP). A common complaint from experienced users was the quality of ISP services. Those concerns fell into two major categories:

- technical capacity (line speed, local access, etc.)
- technical support

ISPs have grown in number across the state and now most communities have Internet access via a local call. Increased bandwidth will be required as more businesses develop more robust sites. Also, prompt and professional technical support is expected and desired by users across the state.

Recommendations

A. Nebraska Business

1. Start/build website.

The explosive growth of web technologies shows no signs of slowing. Experience gained from developing and using a web site becomes a valuable learning tool to identify even more future productive uses of electronic commerce.

2. Talk to vendors.

Internet service providers (ISP's) are a valuable source of information, plus they provide local connection to the Internet. If you do not know who your local ISP's are, start with your local computer store or telephone company. They may be an ISP and/or can identify other local suppliers.

Other industry providers are increasingly developing Internet-based services. Several banks are now offering software solutions that support recent government bid announcements/EDI requirements for government contractors.

3. Use Internet for research.

For experienced users with Internet connectivity, the network is a rich source of information. Scanning other web sites provides a good tutorial for the look and feel you would like for your site.

Increasingly, "how to" sites are appearing on the web for developing and enhancing your site. Most of these are free.

In addition, learn to use the enormous business support services that are now available on the Internet, including business yellow pages, mail list services, business bulletin boards, recruiting services, business catalogs, vendor information, vendor inventory status, shipment tracking, etc. Many of these are also free, while some are fee-based. Find the set that gives your firm a competitive advantage.

4. Broaden your thinking about electronic commerce.

Many firms view the Internet in only one or two ways - marketing/sales and e-mail. These are valuable and highly effective uses—particularly for firms with national/international markets, multiple company locations, and those operating on a business-to-business basis. Other appropriate views of the Internet may include:

- How can cost be reduced?
- What new web-based services could our firm develop and provide?
- What new sources of labor/supplies/materials might be available on the net?
- What happens to my business if my competitors develop successful internet strategies?

5. Web Address.

Select a web address that is:

- simple
- says who you are (i.e., www.smead.com; www.agromac.com; www.enterprise.com)

B. Nebraska Communities

A key part of a community's business structure must be Internet/electronic commerce providers. Key intellectual and technical resources must be present in the community to provide quality access, plus quality development and maintenance services to business. Civic and business leaders must foster and encourage these private sector companies.

Key providers include:

1. Internet service providers (ISP).

The ISP provides the access to global networks. Many communities now have several ISP's. Key attributes of local ISP's will include:

- Local access (versus long distance call for access).
- Sufficient bandwidth offerings required by growing sites.
- Quality technical consultation services.
- Competitive pricing for services received.
- Financial stability of the ISP.
- Several service options.

2. Educational services

Communities need a place where business and individual users can go to get training, answers to questions and encouragement. These educational services can take several forms:

- Community or 4-year college that develops competencies and provides courses and classes
- Local computer sales store that develops Internet competencies, holds classes, provides tutorials, etc.
- Local entrepreneur or experienced web developer that provides developmental services and training.

3. Developmental services.

The challenge of web site owners is to get people to visit the site and then do the transactions those people seek. This is the same problem that every main street business has today - "How do I get people to walk through the door and then buy?"

D. Economic Development Entities

Business creates jobs. The economic health of a region is based upon the economic health of business. As more businesses move to electronic platforms, economic development initiatives should be designed to support this form of business and commerce.

1. Chamber of Commerce/Nebraska Department of Economic Development.

These and others that pursue incentives to foster educational and entrepreneurial opportunities that are focused toward business enterprises will probably yield the greatest return. Lower returns will come from general awareness type programs. The goal of economic development efforts should be to make Nebraska business competitive in global markets. Success will cause business growth, more employment, and increased markets for Nebraska products and services.

2. Build Nebraska websites

Initiatives that help businesses establish web pages will help firms start using the technology. Success of such sites will be uneven. However, those with business-to-business activities in regional, national, and international markets have a relatively high-yield potential.

3. Develop electronic tools.

Specific web based services designed for Nebraska business or businesses recruited to Nebraska would be productive. Such electronic services provided by government could include electronic tax forms/returns; law and regulations; directories, etc. The web site could also include Nebraska based directories, Nebraska labor market, materials resources, etc.