Statewide Survey of Business Internet Usage in North Carolina

June 2003

A report prepared for the Rural Internet Access Authority by the Appalachian Regional Development Institute of Appalachian State University

STATEWIDE SURVEY OF BUSINESS INTERNET USAGE IN NORTH CAROLINA

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Produced by the Appalachian Regional Development Institute
Appalachian State University
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The Appalachian Regional Development Institute (ARDI) is a research and public service program of Appalachian State University. ARDI's mission is to study issues related to regional development and to facilitate economic and community development in western North Carolina by providing technical assistance and advice to business, government, and nonprofit organizations in the region.

Acknowledgements

This report is the result of a request for proposal in May 2002 from the Rural Internet Access Authority's e-NC program to the Appalachian Regional Development Institute (ARDI) to estimate business Internet usage in North Carolina. The grant proposal was accepted in late August 2003. After the survey instrument was designed and approved by RIAA staff, the actual survey was conducted during December 2002 and January 2003. Analysis of the raw data and producing the final report took place during late winter and early spring 2003.

To complete a statistical research project of this magnitude involves many players. We especially want to thank Mrs. Jane Smith Patterson, Executive Director of the Rural Internet Access Authority, and Ashlie Lefko, our RIAA Regional Representative, for their valuable insight and direction for the project. Loretta Link led the team of interviewers and entered the bulk of the sizable amount of raw data into the statistical database program. We appreciate all their efforts. We also want to thank the survey respondents from the 1756 businesses and organizations who took time out of their schedules to answer the interviewers' questions. Hopefully, their input will help policy-makers develop long-term strategies and implementation plans to help all North Carolinians transition to the digital era.

Finally, we thank Rosemarie Lego for providing administrative support and budget management and Gillian Farquhar, ARDI student intern, for helping to enter the raw data and assembling the pieces of the report for distribution.

Executive Summary

Statewide Survey of Business Internet Usage in North Carolina

During December 2002 and January 2003, Appalachian Regional Development Institute (ARDI) conducted a telephone survey of North Carolina businesses and organizations to measure the extent of computer and Internet usage across the state. The survey results provide a snapshot of the level of penetration of computers and Internet communications into businesses and organizations. The survey sample was selected proportionately from all 100 North Carolina counties and consisted of 7,000 listings yielding 1756 completed interviews.

Using the Rural Center's definition of 15 core metropolitan counties as urban, the sample breaks down into approximately 48% rural and 52% urban. Because many rural counties have relatively large urban centers, some notable distinctions between the more rural counties that don't have such urban centers and those that do are brought to light. Responding organizations were also identified by economic development partnership region, and the partnerships were allocated to western (AdvantageWest), central (Charlotte, Piedmont Triad and Research Triangle) and eastern (Southeast, East and Northeast) geographic regions of the state. As would be expected in proportionate sampling, the majority of responding organizations (60%) are from the central region, which contains most of the state's major urban counties. Thirteen percent of the sample is in the western 23 counties and 26% is in the eastern region.

Ninety percent of the sample is comprised of private businesses other than personal services and not-for-profit organizations with retail trade comprising the largest category at 22.1%. The size distribution of sample organizations is consistent with the fact that most businesses in North Carolina are small -- only 8% of the sample organizations have over 50 employees, while 68% have 10 or fewer employees. In this sample most respondents (almost 80%) are owners, management or administrative support.

Major Statewide Findings:

- Over 81% of the sample firms and organizations use computers.
- Over 77% of organizations with computers are connected to the Internet. By applying this percentage to the 81% that use computers, 62.8% of North Carolina businesses and organizations are connected to the Internet.
- The predominant reason given for not being connected is that the organization *perceives* (emphasis added) no benefit from being connected.
- Over 54% of the connected population has some form of broadband connection, however, dial up connections are over represented among small firms -- 75.7% of dial up connections are in firms with 10 or fewer employees.
- In over 60% of the sample organizations, every employee has Internet access at work.
- Ninety-seven and a half percent of all organizations connected use the Internet for one or more identified work-related purposes, with "conducting research" the most frequently identified work-related use (55.1%) followed by "customer service" and "communication with suppliers" at 40% respectively.
- Only 13% of the organizations use the Internet for business activity outside the United States.
- Over 60% of respondents connected to the Internet have a website, and by looking at the number with websites (697) relative to the total sample (1756), one can infer that 39.7% of businesses and organizations in North Carolina have websites.
- The predominant use of organization websites is for visibility and advertising (70.8%).
- Organizations connected to the Internet handle e-mail in a variety of ways:Over 42% have a designated employee to send and receive e-mail for the organization; over 46% have individual e-mail addresses with employees handling their own e-mail; and less than 12% utilize a combination, with some employees having their own e-mail address and others relying on a designated employee to send and receive e-mail.

Rural-Urban Comparisons:

- In general, urban firms and organizations are more likely than rural firms and organizations to use computers (85% urban compared with 77.3% rural) and be connected to the Internet (67.5% urban compared with 57.8% rural).
- Rural organizations are much more likely than urban organizations to use dial up connections (52.4% of rural organizations versus 40.2% of urban organizations).
- Urban organizations are more likely than rural organizations to use the Internet for work-related activities with the biggest differences in the categories of "customer service", "sales and marketing", and "conducting research".
- Use of the Internet to conduct business globally is more prevalent in urban areas (15.1% urban compared with 10.5% rural).
- Urban organizations (64.4%) are more likely than rural organizations (56.3%) to have a website.
- There is a pattern of increasingly sophisticated use of computers and the Internet from the more rural counties through the urban counties:
    - Use of computers increases as areas become more urban, however, the more rural county organizations are more likely to be connected to the Internet.
    - Dial up connections are more prevalent in the more rural counties.
    - The more rural county organizations are somewhat less likely to have a web site.
    - Email in the more rural county organizations is more likely to be handled by a designated staff person.
    - Use of the Internet for "customer service," "sales and marketing," "communicating with suppliers," "conducting research," and "communicating with employees" are all less likely to occur in the more rural counties.

Regional Comparisons:

The mix of rural and urban counties in the sample varies considerably across regions. The majority of the West sample consists of the more rural counties, the Central sample consists of primarily urban counties, and the East sample is more balanced.

Regional distributions of sample organizations by type are somewhat similar; however, based on the more urban nature of the Central region, it has a smaller concentration of retail organizations and a larger concentration of business services. The East sample has the smallest concentration of manufacturing businesses.

As one would expect, both the West and East samples have higher concentrations of small (10 or fewer employees) firms than in the Central region.

Organizations in the Central region are more likely to use computers, have an internal network and be connected to the Internet than organizations in the West or East.

Dial up accounts are much more prevalent in the West than in either of the other two regions, and somewhat more prevalent in the East than in the Central region.

Local ISPs are more likely to be used in the East and West than in the Central region.

Central organizations are much more likely than those in the West or East to have individual email accounts for employees.

For the most part, only small differences are reflected across regions in the percentages of organizations that use the Internet for various types of identified business activity. The East organizations appear to be less likely than the West or Central organizations to use the Internet for purchasing or communicating with suppliers. The Central organizations are more likely than West or East organizations to use the Internet for research and for communicating with employees.

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Statewide Survey of Business Internet Usage in North Carolina

1. Introduction

During December 2002 and January 2003, Appalachian Regional Development Institute (ARDI) at Appalachian State University conducted a brief telephone survey of North Carolina businesses and organizations to measure the extent of computer and Internet usage across the state. The survey, conducted on behalf of the North Carolina Rural Internet Access Authority, addresses a number of issues regarding computer and Internet usage. Some of the major issues addressed include whether the organization is connected to the Internet, the percentage of employees with Internet access, work-related activities conducted online, whether the organization has a website, the purpose of the website and how company email is handled. In addition, comparisons between urban and rural counties and regional comparisons are made. This report summarizes the results of the survey.

2. Survey Design

The survey results provide a snapshot of the level of penetration of computers and Internet communications into businesses and organizations throughout North Carolina. The sampling frame used for the survey is the database of businesses and organizations maintained by ReferenceUSA, which maintains a national database of over 12 million such organizations, and updates the database from a variety of sources on a regular basis. As stated on the ReferenceUSA website:

> **Information is compiled from the following public sources: more than 5,600 Yellow Page and Business White Page telephone directories; annual reports, 10-Ks and other SEC information; Continuing Medical Education (CME) directories; federal, state, provincial and municipal government data; Chamber of Commerce information; leading business magazines, trade publications, newsletters, major newspapers, industry and specialty directories; and postal service information, including both U.S. and Canadian National Change of Address updates.**

At the time of the survey, the Reference USA database included approximately 373,000 business and organization listings in North Carolina. For interpreting the survey results, it is important to note that each separate operating unit of multi-unit organizations is included as a separate listing. Therefore, inferences about the population studied apply to the total of business and organization listings in the database.

The survey sample was selected proportionately from all 100 North Carolina counties. With a target of 1400 completed interviews and based on the assumption of a 20% yield, the total sample included 7,000 listings. The yield turned out to be 25%, producing a total of 1756 completed interviews. This sample size gives an estimation error rate of 2.3% with a 95% level of confidence, in repeated sampling. In other words, for samples of 1756, estimates will differ from the true population value by no more than 2.3% in an average of 19 out of 20 samples of this size.

Non-response occurs for a variety of reasons in telephone surveys. However, we took steps to minimize the non-response and to assure no bias in the results caused by non-response. Interviewers were required to explain the purpose of the interview, state the time required and assure the respondent of confidentiality. The interviewer then verified whether the person answering the call felt that he or she had enough knowledge of the organization's computer and Internet usage to respond to the questionnaire. When necessary, the interviewer was referred to someone in the organization with adequate knowledge of the issues. When interviewers encountered a busy signal or no answer they were instructed to call back up to two times, with at least one callback on a separate day. Much of the non-response was due to wrong numbers, busy signals and no answer, rather than refusals after the connection was made.

Any survey of this nature must contend with missing values. Although 1756 interviews were completed, the totals in the following tables will deviate from that number because of missing values. However, the number of missing values on any question is relatively small. Missing values generally reflect one of three outcomes: the respondent did not know the answer; the interviewer failed to record the response clearly; or, in rare cases, the respondent chose to terminate the interview before all questions were asked. Also, the reader should note that questions regarding whether the organization uses computers and whether it is connected to the Internet eliminated a number of respondents from being asked more specific questions about computer and Internet usage.

The remainder of this report is a summary of statistical findings. Section 3 includes a summary of respondent characteristics, Section 4 presents data for the state as a whole, Section 5 reports the results separately for rural and urban counties, and Section 6 reports results by region.

3. Characteristics of Responding Businesses and Organizations

Tables 1 through 8 describe the sample. In Tables 1, 2, and 3 organizations are identified by location. Using the Rural Center's definition of 15 core metropolitan counties as urban, the sample breaks down into approximately 48% rural and 52% urban. Responding organizations were also identified by economic development partnership region, and the partnerships were allocated to western (AdvantageWest), central (Charlotte, Piedmont Triad and Research Triangle) and eastern (Southeast, East and Northeast) geographic regions of the state. As would be expected in proportionate sampling, the majority of responding organizations (60%) are from the central region, which contains most of the state's major urban counties. Thirteen percent of the sample is in the western 23 counties and 26% is in the eastern region.

Table 1. Rural/urban distribution of responding organizations.

Rural/urban	Frequency	Percent
Rural county	838	47.8
Urban county	915	52.2
Total	1753	100.0

Table 2. Distribution of responding organizations by economic development partnership.

Partnership	Frequency	Percent
AdvantageWest	235	13.4
Charlotte	416	23.7
Piedmont Triad	293	16.7
Research Triangle	346	19.7
Southeast	181	10.3
East	191	10.9
Northeast	91	5.2
Total	1753	100.0

Table 3. Geographic distribution of responding organizations.

Region	Frequency	Percent
West	235	13.4
Central	1055	60.2
East	463	26.4
Total	1753	100.0

Most of the sample is distributed over a wide range of private businesses (See Table 4.), with retail trade comprising the largest category at 22.1%. Government organizations account for 5.1% of the sample. The “other” category (5%) is comprised mostly of personal service businesses and not-for-profit organizations. In other words, 90% of the sample is comprised of private businesses other than personal services and not-for-profits.

Table 4. Distribution of sample by type of business or organization.

Type	Frequency	Percent
Construction	130	7.4
Manufacturing	138	7.9
Transportation and public utilities	54	3.1
Wholesale trade	47	2.7
Retail trade	386	22.1
Finance or insurance	100	5.7
Real estate	81	4.6
Health care	191	10.9
Hotels and other lodging	22	1.3
Legal services	60	3.4
Business services	117	6.7
Educational services	48	2.7
Entertainment services	46	2.6
Other services	151	8.6
Government program or enterprise	90	5.1
Other	87	5.0
Total	1748	100.0

The size distribution of sample organizations is consistent with the fact that most businesses in North Carolina are small. Only 8% of the sample organizations have over 50 employees, while 68% have 10 or fewer employees.

Table 5. Number of employees in the business or organization.

Number of employees	Frequency	Percent
1 to 10 employees	1166	68.2
11 to 20 employees	221	12.9
21 to 50 employees	186	10.9
51 to 100 employees	62	3.6
More than 100 employees	74	4.3
Total	1709	100.0

As shown in Table 6, the majority (78.4%) of respondents are autonomous local organizations, consistent with the fact that most of them are small.

Table 6. Respondent organization's location by whether it is a local, branch, or franchise organization.

Respondent Organization	Frequency	Percent
Local company or organization	1368	78.4
Branch operation	270	15.5
Franchise operation	108	6.2
Total	1746	100.0

One concern in a telephone survey of this type is whether the responding individual has sufficient knowledge of the issues being addressed to provide accurate information. In most small firms and organizations, anyone in a management or administrative support position is likely to be familiar with the organization's computer and Internet usage. In this sample, most respondents are owners, management or administrative support. The relatively large "other" category in Table 7 includes production personnel, leaders of not-for-profits who do not classify themselves as management and others who do not fit well into a single category.

Table 7. Position of respondent.

Respondent	Frequency	Percent
Owner or CEO	402	23.1
Management	425	24.5
Marketing and sales	118	6.8
Administrative support	456	26.3
Information technology specialist	25	1.4
Other	311	17.9
Total	1737	100.0

As a further check on the responding individual's ability to accurately address the issues in the survey, respondents identified their level of knowledge of email and the Internet as "high", "moderate", or "low" (Table 8). Almost 26% reported their knowledge as "low", and among that group, 43.8% are in organizations that do not use computers. Also, 82.4% of those reporting their knowledge of computers and the Internet as "low" are in organizations with 10 or fewer employees.

Table 8. Respondent's self-reported knowledge of email and the Internet.

Level of knowledge	Frequency	Percent
High	528	30.2
Moderate	769	44.0
Low	449	25.7
Total	1746	100.0

4. Computer and Internet Usage

Most firms and organizations in North Carolina do use computers. As shown in Table 9, over 81% of the sample firms and organizations use computers. Of those not using computers, 87.9% are in the 1 to 10-employee range and they are disproportionately (58.3%) in rural counties. They are also disproportionately represented in retail trade (39.1%) and other services (19.4%). Most of the organizations not currently using computers have no plans for purchasing a computer during the current year. Only 6.2% indicated that they plan to make such a purchase.

Table 9. Use of computers by the firm or organization.

Use of Computers	Frequency	Percent
Firm/organization uses computers	1421	81.3
Firm/organization does not use computers	327	18.7
Total	1748	100.0

Internal networks for sharing files and data are fairly common throughout the state. Almost 59% of organizations with computers (Table 10) utilize an internal network. Size is not a controlling factor in regard to use of an internal network, as 51.6% of computer using organizations with 10 or fewer employees also utilize an internal network.

Table 10. Incidence of internal network or Local Area Network for sharing data and files in organizations that use computers.

Internal Network	Frequency	Percent
Yes	835	58.9
No	583	41.1
Total	1418	100.0

One of the key purposes of the survey is to estimate the extent to which businesses and other organizations are using the Internet to facilitate their business activities. As shown in Table 11, over 77% of organizations with computers are connected to the Internet. Multiplying that percentage by the 81.3% that uses computers (Table 9), one can infer that 62.8% of businesses and other organizations in North Carolina are connected to the Internet. Business and organization types less likely to be connected to the Internet include retail trade (22.1% of sample and 33.5% of those not connected) and other services (8.6% of sample versus 14.6% of those not connected). Size seems to matter some in determining whether an organization is likely to be connected. The only size category over-represented among those not connected and without computers is the group with 10 or fewer employees (68.2% of the sample compared to 77.3% of the subgroup).

Table 11. Incidence of Internet connection of firms/organizations with computers

Connected to Internet	Frequency	Percent
Yes	1099	77.3
No	323	22.7
Total	1422	100.0

Among organizations not connected to the Internet, the predominant reason given for not being connected (Table 12) is that the organization perceives no benefit from being connected. Only 8.7% of those not currently connected to the Internet have any plans for connecting during the next year.

Table 12. Reasons given for not being connected to the Internet.

Reason for not being connected to Internet	Frequency	Percent
No need	233	77.9
Lack of training	7	2.3
Security concerns	7	2.3
Cost	19	6.4
Other	33	11.0
	299	100.0

As shown in Table 13, dial up connections are still used by a large fraction (45.6%) of businesses and organizations, limiting their ability to transfer files and data efficiently. Alternatively, one can say that over 54% of the connected population has some form of broadband connection, including 25.5% with DSL and 13% with cable. Dial up connections are predominant among small firms; 75.7% of dial up connections are in firms with 10 or fewer employees, compared to 68.2% of such firms in the sample.

Table 13. Kind of Internet connection.

Connection	Frequency	Pecent
Dial up	502	45.6
DSL	280	25.5
Cable	143	13.0
T1	59	5.4
Greater than T1	3	0.3
ISDN	14	1.3
Satellite	7	0.6
Wireless	7	0.6
Dedicated data line	4	0.4
Other	81	7.4
Total	1100	100.0

Local Internet Service Providers appear to be the first choice of most organizations; 45.5% of respondents with an Internet connection use a local provider, 39.1% use a national provider, such as AOL, and 15.4% are unsure whether the provider is local or national. Levels of satisfaction with current providers are shown in Table 14. Only 5% indicate a low level of satisfaction and over 58% are highly satisfied with their provider. Those who indicated a low level of satisfaction with their current Internet provider are generally concerned about poor service, slow connection speed and frequent service interruptions.

Table 14. Level of satisfaction with current Internet provider ■

Satisfaction level	Frequency	Percent
High	641	58.6
Moderate	397	56.3
Low	55	5.0
Total	1093	100.0

In over 60% of the sample organizations, every employee has Internet access at work. Comparing the organizations with 50% or more of employees having Internet access with the total sample yields no interesting discernable patterns. For the most part, the proportion with 50% of employees or more having Internet access does not vary by organization size. There are some small but expected differences by type of firm. For example, a slightly smaller proportion of construction and manufacturing firms have more than 50% of their employees with Internet access than their proportion in the overall sample. The exception is retail trade, which represents 22.1% of the sample, but only 15.6% of organizations with 50% or more employees having Internet access.

Table 15. Percent of employees with Internet access at work.

Percent of employees	Frequency	Percent
0 to 9 percent	66	6.1
10 to 24 percent	93	8.5
25 to 49 percent	115	10.6
50 to 74 percent	104	9.6
75 to 99 percent	53	4.9
100 percent	657	60.4
Total	1088	100.0

The vast majority of respondents (93%) indicated no concern with inappropriate use of the Internet by employees. Those expressing a concern generally listed the impact of personal use on productivity, accessing inappropriate websites, and the potential for viruses as the reasons for their concern.

Conducting research (55.1%) is the most frequently identified work-related use of the Internet by organizations with an Internet connection, followed by customer service and communication with suppliers at 40% (Table 16). Almost all organizations that are connected use the Internet for one or more work-related purposes; of the 1099 connected organizations, 97.5% use the Internet for one or more of the activities in Table 16. However, as shown in Table 17, only 13% of the organizations use the Internet for business activity outside the United States.

Table 16. Percent of respondents with Internet service who use the Internet for specific work-related activities.

Internet use	Frequency	Percent of respondents with Internet connection
Customer service	443	40.1
Sales and marketing	434	39.3
Purchasing	435	39.4
Communicating with suppliers	442	40.0
Conducting research	609	55.1
Communicating with employees	397	36.0
Vendor relations	248	22.4
Government relations	233	21.1
Quality assurance or control	149	13.5
Other use	113	10.4

Table 17. Location of Internet business activity.

Internet business activity	Frequency	Percent of responding organizations with Internet connection
Within North Carolina	531	48.3
Within United States	603	55.0
Globally	143	13.0

Respondents were asked how their organization makes technology decisions. In most organizations (67%) technology decisions are made by company officers, in 19% technology decisions include input from a full-time information technology staff member, and 10% of organizations make such decisions by committee.

Only organizations with computers and currently connected or planning to connect to the Internet were asked whether they have a website. As shown in Table 18, only 60.7% of respondents connected to the Internet have a website. Looking at the number with websites (697) relative to the total sample (1756), one can infer that 39.7% of businesses and organizations in North Carolina have websites. Also from Table 18, one can infer that once an organization establishes a website, it is likely to be continued. In fact, almost 52% of current websites (Table 19) have been in existence for over 3 years.

Table 18. Incidence of websites among organizations connected to the Internet.

Website status	Frequency	Percent
Currently has website	697	60.7
Never had website	444	38.7
Formerly had website	7	0.6
Total	1148	100.0

Table 19. Length of time the business/organization has had a website.

Time with website	Frequency	Percent
0 to 1 year	111	16.6
1 to 3 years	211	31.6
Over 3 years	346	51.8
Total	668	100.0

At this point in time, the predominant use of organization websites is for visibility and advertising (Table 20). Online customer support, online sales, and internal communication are the primary purposes for a small proportion of the organizations with websites.

Table 20. Primary purpose of website.

Primary purpose	Frequency	Percent
Visibility and advertising	476	70.8
Online customer support	56	8.3
Online sales	54	8.0
Internal communication	43	6.4
Communication with suppliers	3	0.4
Other	40	6.0
Total	672	100.0

Organizations connected to the Internet responded to a number of questions regarding security, email handling, telecommuting and employee training. Responses to those questions are summarized below.

- Organizations connected to the Internet were asked whether they have security concerns regarding use of the Internet to conduct business. Only 16.1% responded that they do have security concerns. The type of concern generally falls into three categories: privacy and confidentiality, protection of financial information, and contacting viruses or other malicious damage.

- Organizations connected to the Internet handle e-mail in a variety of ways.
    - 42.2% have a designated employee to send and receive e-mail for the organization.
    - 46.6% have individual e-mail addresses with employees handling their own e-mail.
    - 11.2% utilize a combination, with some employees having their own e-mail address and others relying on a designated employee to send and receive e-mail.

- Among organizations connected to the Internet, 23.0% have employees who telecommute. However, the incidence of telecommuting varies considerably by location of the organization, type of organization and size as indicated below:
    - While only 19.7% of the sample is in the Research Triangle region, 26.7% of organizations with telecommuting employees are in that region.
    - The incidence of telecommuting organizations in urban areas (60.5%) exceeds the incidence of urban organizations in the sample (52.2%).
    - Business services are over twice as likely to have telecommuting employees (14.4%) compared to their representation in the total sample (6.7%).
    - 31.1% of organizations with over 100 employees include telecommuters, 20.1% of organizations with between 51 and 100 employees include telecommuters and only 13.8% of organizations with 50 or fewer employees include telecommuters.

- Among organizations connected to the Internet, 32.5% provide some computer/Internet training for their employees. Although answers were not specific enough to provide an accurate distribution of type of training offered, basic computer skills and applications software were most frequently mentioned.

Respondents from organizations connected to the Internet were asked whether their organization would be interested in a specific set of seminars or workshops. Responses are shown in Table 21. Although the percentages are small, when applied to

the entire population of businesses and organizations with Internet connections, the potential demand for training programs is very large.

Table 21. Interest in seminars and workshops.

Type of seminar/workshop	Frequency	Percent
Effective use of e-mail	67	5.9
Marketing and advertising via the Internet	108	9.4
Website development and maintenance	132	11.6
Connectivity and infrastructure	49	4.3
Document management systems	67	5.9
Security	78	6.8
Other	11	1.0

Organizations connected to the Internet were asked whether they need assistance with updating the use of technology in specific areas. As shown in Table 22, most organizations responded negatively to the question, implying that they are satisfied with their ability to deal with technology, they do not see a compelling reason to upgrade their technology, or they expected a follow-up sales pitch if they answered in the affirmative.

Table 22. Organizations expressing a need for assistance with updating the use of technology.

Type of assistance	Frequency	Percent
Taking business operations on the Web	45	3.9
Updating the tools and processes used in production/manufacturing	46	4.0
Updating management processes	44	3.9
General applications of technology in the organization	52	4.6
Other	5	0.4

5. Rural-Urban Comparisons

The North Carolina Rural Economic Development Center defines urban counties as those with a population density of 200 or more people per square mile. Based on that definition, the following North Carolina counties are classified as urban for this study:

Alamance	**Buncombe**	**Cabarrus**
Catawba	**Cumberland**	**Davidson**
Durham	**Forsyth**	**Gaston**
Guilford	**Mecklenburg**	**New Hanover**
Orange	**Rowan**	**Wake**

It is important to note that many of the counties classified as rural have relatively large urban centers within their borders, and those counties may be more like the urban counties than they are like other rural counties, making the rural-urban comparisons somewhat difficult to interpret.

Tables 23 through 27 compare rural and urban organizations by various sample characteristics. Some key points from those tables are highlighted below.

- Urban areas have slightly higher concentrations of manufacturing, wholesale trade, real estate, legal services and business services (Table 23).
- Rural counties have a higher concentration of locally owned organizations (Table 24).
- Respondents from urban organizations were more likely to rate their knowledge of email and the Internet as high (Table 26).
- Rural organizations are more likely to have one to 10 employees (Table 27).

Table 23. Rural and Urban distributions of sample by type of business or organization.

Type	Percent of rural organizations	Percent of urban organizations
Construction	7.5	7.4
Manufacturing	6.8	8.9
Transportation and public utilities	3.2	3.0
Wholesale trade	2.0	3.3
Retail trade	23.9	20.5
Finance or insurance	6.2	5.3
Real estate	3.7	5.5
Health care	10.8	11.0
Hotels and other lodging	2.0	0.6
Legal services	2.6	4.2
Business services	4.4	8.8
Educational services	2.6	2.8
Entertainment services	2.9	2.4
Other services	8.1	9.1
Government program or enterprise	7.5	2.9
Other	5.5	4.5
Total	100.0	100.0

Table 24. Rural and urban distributions of sample by local, branch, or franchise organization status.

Respondent Organization	Percent of Rural Organizations	Percent of Urban Organizations
Local company or organization	81.4	75.5
Branch operation	13.1	17.5
Franchise operation	5.5	6.8
Total	100.0	100.0

Table 25. Rural and urban distributions of sample by position of respondent.

Respondent	Percent of Rural Organizations	Percent of Urban Organizations
Owner or CEO	25.0	21.4
Management	22.6	26.2
Marketing and sales	6.4	7.2
Administrative support	25.8	26.8
Information technology specialist	1.0	1.9
Other	19.2	16.6
Total	100.0	100.0

Table 26. Rural and urban distributions by respondent's self-reported knowledge of email and the Internet.

Level of knowledge	Percent of Rural Organizations	Percent of Urban Organizations
High	25.7	34.5
Moderate	47.5	40.9
Low	26.8	24.6
Total	100.0	100.0

Table 27. Rural and urban distributions by number of employees.

Number of employees	Percent of Rural Organizations	Percent of Urban Organizations
1 to 10 employees	70.5	66.2
11 to 20 employees	12.1	13.7
21 to 50 employees	9.6	11.9
51 to 100 employees	4.0	3.3
More than 100 employees	3.8	4.8
Total	100.0	100.0

In general, urban firms and organizations are more likely than rural firms and organizations to use computers, be connected to the Internet and use the Internet for business purposes. These differences are summarized in Tables 28 through 36. As shown in Table 28, 85% of urban organizations use computers, while only 77.3% of rural organizations do so. Table 29 shows that almost 63% of urban organizations utilize an internal network, compared to only 54.2% in rural counties. Urban organizations are much more likely to be connected to the Internet than rural organizations (67.5% of urban organizations versus 57.8% of rural organizations).

Table 28. Use of computers by rural and urban organizations.

Use of computers	Percent of Rural Organizations	Percent of Urban Organizations
Firm/organization uses computers	77.3	85.0
Firm/organization does not use computers	22.7	15.0
Total	100.0	100.0

Table 29. Rural and urban incidence of internal network or Local Area Network for sharing data and files in organizations that use computers.

Internal network	Percent of Rural Organizations	Percent of Urban Organizations
Yes	54.2	62.7
No	45.8	37.3
Total	100.0	100.0

The kind of Internet connection maintained by an organization is most likely influenced by availability as well as relative cost. As shown in Table 30, rural organizations are much more likely than urban organizations to use dial up connections (52.4% of rural organizations and 40.2% of urban organizations). DSL and T1 connections are generally more available; or in the case of T1, less costly, in urban locations, and that fact is reflected in their relative levels of adoption in rural and urban areas.

Table 30. Kind of Internet connection of rural and urban organizations connected to the Internet.

Connection	Percent of Rural Organizations	Percent of Urban Organizations
Dial up	52.4	40.2
DSL	20.6	29.3
Cable	14.4	11.9
T1	3.1	7.2
Greater than T1	0.4	0.2
ISDN	1.4	1.1
Satellite	1.4	0.0
Wireless	0.8	0.5
Dedicated data line	0.4	0.3
Other	4.9	9.3
Total	100.0	100.0

The level of satisfaction of organizations with their current Internet provider does not appear to vary between rural and urban areas (Table 31).

Table 31. Rural and urban levels of satisfaction with current Internet provider.

Satisfaction level	Percent of Rural Organizations	Percent of Urban Organizations
High	58.2	59.1
Moderate	36.7	36.1
Low	5.1	4.8
Total	100.0	100.0

Urban organizations are more likely than rural organizations to have Internet access available to 100% of their employees (Table 32).

Table 32. Rural and urban percent of employees with Internet access at work.

Percent of employees	Percent of Rural Organizations	Percent of Urban Organizations
0 to 9 percent	7.1	5.3
10 to 24 percent	8.3	8.7
25 to 49 percent	10.0	10.9
50 to 74 percent	9.4	9.7
75 to 99 percent	6.3	3.8
100 percent	59.0	61.6
Total	100.0	100.0

In general, urban organizations are more likely than rural organizations to use the Internet for specific work-related activities (Table 33). The biggest differences are in using the Internet for customer service, sales and marketing, and conducting research.

Table 33. Rural and urban percent of respondents with Internet service who use the Internet for specific work-related activities.

Internet use	Percent of Rural Organizations	Percent of Urban Organizations
Customer service	33.9	45.0
Sales and marketing	35.2	42.6
Purchasing	38.0	40.5
Communicating with suppliers	37.2	42.3
Conducting research	50.7	58.7
Communicating with employees	34.0	37.5
Vendor relations	22.3	22.6
Government relations	22.1	20.2
Quality assurance or control	11.0	15.4
Other use	11.8	9.3

Use of the Internet to conduct business globally (Table 34) is more prevalent in urban areas, probably reflecting the greater incidence of international business in urban areas than in rural areas.

Table 34. Rural and urban use of the Internet to conduct business activity in North Carolina, nationally and globally.

Internet business activity	Percent of Rural Organizations	Percent of Urban Organizations
Within North Carolina	43.1	52.5
Within United States	56.1	54.1
Globally	10.5	15.1

As shown in Table 35, urban organizations are more likely than rural organizations to have a website. Visibility and advertising (Table 36) is more likely to be the primary reason for urban organizations to have a website than is the case for rural organizations.

Table 35. Incidence of websites among rural and urban organizations connected to the Internet.

Website status	Percent of Rural Organizations	Percent of Urban Organizations
Currently has website	56.3	64.4
Never had website	43.1	35.0
Formerly had website	0.6	0.6
Total	100.0	100.0

Table 36. Primary purpose of website for rural and urban organizations.

Primary purpose	Percent of Rural Organizations	Percent of Urban Organizations
Visibility and advertising	67.3	73.4
Online customer support	10.2	7.0
Online sales	7.0	8.8
Internal communication	8.8	4.7
Communication with suppliers	0.7	0.3
Other	6.0	5.9
Total	100.0	100.0

As mentioned earlier, many counties classified as rural have relatively large urban centers. For example, 46,000 of Craven County's 92,000 residents live in the towns of New Bern and Havelock, and Greenville has 61,000 of Pitt County's 135,000 residents. These counties may be more like the counties classified as urban than like the rural counties with small concentrations of urban residents. Therefore, to glean more insights from the survey results, the rural counties were divided into Rural1, with no town larger than 10,000 people, and Rural2, consisting of all rural counties with a town larger than 10,000 people. In the following tables Rural1 includes 58 counties, with population centers no larger than 10,000; Rural 2 includes 27 counties classified by the rural Center as rural, but with population centers larger than 10,000; and Urban includes the 15 counties classified by the Rural Center as urban.

Comparison of Rural1, Rural2 and Urban yields several interesting results. In general and as expected, one can see a pattern of increasingly sophisticated use of computers and the Internet from the most rural counties through the urban counties. Several of the positive responses are shown by rural classification in Table 37. Use of computers clearly increases as areas become more urban. Dial up connections are much

more prevalent in Rural1 counties, probably reflecting cost and availability of broadband, rather than a preference for dial up. Rural1 organizations are more likely to rely on local ISPs and somewhat less likely than Rural2 organizations to have a website, and email is more likely in Rural1 organizations to be handled by designated staff, rather than as a communication tool competing with telephones.

Table 37. Rural1, Rural2 and Urban comparisons of computer and Internet usage.

Computer and Internet usage	**Rural1 percent of positive responses**	**Rural2 percent of positive responses**	**Urban percent of positive responses**
Respondent's knowledge of email and the Internet is high.	25.6	25.8	34.5
The business or organization uses computers.	73.1	80.4	85.0
The business or organization uses an internal network.	53.7	54.5	62.7
The business or organization is connected to the Internet.	81.3	70.7	79.4
The Internet connection is a dial up account.	57.9	48.2	40.2
The Internet provider is a local ISP.	62.0	47.5	38.8
The Internet is used to conduct business globally.	7.6	12.7	15.1
The business or organization has a website.	54.2	57.9	64.4
The primary purpose of the website is visibility and advertising.	67.5	67.1	73.4
The business or organization has separate addresses with individuals handling their own email.	31.3	37.5	56.4
Computer/Internet training is provided to employees.	29.3	29.0	35.5

Use of the Internet for specific business purposes further differentiates the most rural counties from urban counties and counties with an urban center larger than 10,000 people. As shown in Table 38, use of the Internet for customer service, sales and marketing, communicating with suppliers, conducting research and communicating with employees are all less likely to occur in Rural1 counties than in Rural2 and Urban counties.

Table 38. Rural1, Rural2 and Urban use of the Internet for specific business purposes.

Internet use for business	Rural1 percent of positive responses	Rural2 percent of positive responses	Urban percent of positive responses
Customer service	31.1	36.1	45.0
Sales and marketing	33.0	36.8	42.6
Purchasing	37.3	38.6	40.5
Communicating with suppliers	35.8	38.3	42.3
Conducting research	46.2	54.2	58.7
Communicating with employees	30.2	37.0	37.4
Vendor relations	21.2	23.1	22.6
Government relations	21.2	22.7	20.2
Quality assurance or control	10.4	11.6	15.4
Other	11.4	12.0	9.3

6. Regional Comparisons

The final set of comparisons is across geographic regions: west, central, and east. As stated earlier, the west includes the 23 counties in the AdvantageWest economic development Partnership; the central region includes the counties in the Charlotte USA Partnership, the counties in the Piedmont Triad Partnership and the counties in the Research Triangle Partnership; and the east region includes the Southeastern Partnership, the Eastern Partnership and the Northeastern Partnership. The mix of rural and urban counties in the sample varies considerably across regions (Table 39). The West sample consists of primarily Rural1 counties, the Central sample consists of primarily Urban counties and very few from Rural1 counties, and the East sample is more balanced, but with a larger fraction of responses from Rural2 counties. To the extent that the sample distribution reflects the population distribution of the regions, it is clear that the West is by far the most rural section of North Carolina.

Table 39. Rural1, Rural2 and Urban distribution of sample by region.

Rural/Urban	Percent of West sample	Percent of Central sample	Percent of East sample
Rural1	52.3	7.2	33.3
Rural2	29.4	20.2	43.8
Urban	18.3	72.6	22.9
Total	100.0	100.0	100.0

The contrast among areas of North Carolina in terms of degree of ruralness is further illustrated by looking at the specific economic development partnerships. The sample includes almost no responses from Rural1 counties in the Charlotte Partnership, while neither the East Partnership nor the Northeast Partnership samples include any responses from Urban counties.

Regional distributions of sample organizations by type are somewhat similar (Table 40). As one would expect, based on the more urban nature of the Central region, it has a smaller concentration of retail organizations and a larger concentration of business services. The East sample has the smallest concentration of manufacturing businesses.

Table 40. Regional distributions of sample by type of business or organization.

Type	Percent of West organizations	Percent of Central organizations	Percent of East organizations
Construction	8.5	7.2	7.4
Manufacturing	7.7	9.3	4.8
Transportation and public utilities	4.3	2.8	3.3
Wholesale trade	2.1	3.2	1.7
Retail trade	22.6	20.5	25.7
Finance or insurance	5.5	5.0	7.4
Real estate	4.7	5.0	3.9
Health care	11.5	10.6	11.3
Hotels and other lodging	1.3	1.0	2.0
Legal services	1.3	3.9	3.5
Business services	3.8	8.6	3.9
Educational services	2.6	2.9	2.4
Entertainment services	1.7	2.7	3.0
Other services	8.5	8.8	8.5
Government program or enterprise	6.4	4.1	6.7
Other	7.7	4.6	4.6
Total	100.0	100.0	100.0

As shown in Table 41, both the West and East samples have higher concentrations of small (10 or fewer employees) firms than in the Central region.

Table 41. Regional distributions by number of employees.

Number of employees	Percent of West Organizations	Percent of Central Organizations	Percent of East Organizations
1 to 10 employees	71.0	66.3	71.2
11 to 20 employees	11.3	13.6	12.4
21 to 50 employees	12.1	11.2	9.5
51 to 100 employees	2.6	3.6	4.3
More than 100 employees	3.0	5.3	2.7
Total	100.0	100.0	100.0

Regional comparisons of several key responses regarding computer and Internet usage are shown in Table 42. Although most of the percentages of positive responses are similar across regions, some key differences can be attributed to the more urban nature of the Central region. Organizations in the Central region are more likely to use computers, have an internal network and be connected to the Internet than organizations in the West or East. Dial up accounts are much more prevalent in the West than in either of the other two regions, and somewhat more prevalent in the East than in the Central region. As stated earlier in comparing urban and rural, the difference in dial up accounts is probably more attributable to availability and cost of broadband in the West and East than to a differential desire to have dial up accounts. Local ISPs are more likely to be used in the East and West than in the Central region. Finally, Central organizations are much more likely than those in the West or East to have individual email accounts for employees.

Table 42. Regional comparisons of computer and Internet usage.

Computer and Internet usage	West percent of positive responses	Central percent of positive responses	East percent of positive responses
Respondent's knowledge of email and the Internet is high.	26.9	31.6	29.1
The business or organization uses computers.	76.4	83.6	78.6
The business or organization uses an internal network.	52.5	62.6	52.9
The business or organization is connected to the Internet.	75.3	79.2	73.7
The Internet connection is a dial up account.	57.8	42.4	47.6
The Internet provider is a local ISP.	58.8	41.2	49.6
The Internet is used to conduct business globally.	11.1	15.5	7.8
The business or organization has a website.	56.7	61.5	60.5
The primary purpose of the website is visibility and advertising.	78.5	72.3	63.3
The business or organization has separate addresses with individuals handling their own email.	32.6	53.7	36.0
Computer/Internet training is provided to employees.	27.1	33.9	31.8
Some employees telecommute	23.7	24.2	19.6

The final regional comparisons, shown in Table 43, are the percentages of organizations that use the Internet for various types of business activity. For the most part, only small differences are reflected across regions. The East organizations appear to be less likely than the West or Central organizations to use the Internet for purchasing or communicating with suppliers. The Central organizations are more likely than West or East organizations to use the Internet for research and for communicating with employees.

Table 43. Regional comparisons of use of the Internet for business.

Internet use for business	**West percent of positive responses**	**Central percent of positive responses**	**East percent of positive responses**
Customer service	37.0	40.7	40.1
Sales and marketing	41.5	39.0	39.1
Purchasing	43.7	40.3	35.0
Communicating with suppliers	43.0	42.3	32.8
Conducting research	48.9	59.0	48.5
Communicating with employees	31.9	38.7	30.8
Vendor relations	22.2	23.3	20.4
Government relations	25.2	21.0	19.0
Quality assurance or control	13.3	13.5	13.5
Other	12.7	9.3	12.1

In Tables 44-47, the Central and East geographic areas are broken down into the economic development partnerships for the purpose of comparing several aspects of computer and Internet usage. Although some slight differences are apparent, the primarily urban partnerships in the central area are very similar in their overall computer and Internet usage and in using the Internet for business (Tables 44 and 46). Likewise, the eastern partnerships are all very similar in their overall computer and Internet usage.

Table 44. Computer and Internet usage in the Central Economic Development Partnerships.

Computer and Internet usage	**Charlotte, USA percent of positive responses**	**Piedmont Triad percent of positive responses**	**Research Triangle percent of positive responses**
The business or organization uses computers.	84.1	82.8	83.7
The business or organization uses an internal network.	58.9	58.7	70.4
The business or organization is connected to the Internet.	81.5	74.6	80.4
The Internet connection is a dial up account.	44.4	40.2	41.8
The Internet is used to conduct business globally.	12.5	14.0	20.3
The business or organization has a website.	61.0	57.9	65.0
The primary purpose of the website is visibility and advertising.	74.4	71.4	70.6
The business or organization has separate addresses with individuals handling their own email.	49.4	61.1	52.9
Computer/Internet training is provided to employees.	31.6	33.3	37.2
Some employees telecommute	20.8	22.9	29.4

Table 45. Computer and Internet usage in the Eastern Economic Development Partnerships.

Computer and Internet usage	Southeast percent of positive responses	East percent of positive responses	Northeast percent of positive responses
The business or organization uses computers.	77.9	82.7	71.4
The business or organization uses an internal network.	52.2	50.3	60.9
The business or organization is connected to the Internet.	73.2	70.6	82.8
The Internet connection is a dial up account.	46.5	46.9	50.9
The Internet is used to conduct business globally.	4.9	11.4	5.7
The business or organization has a website.	58.3	62.8	59.3
The primary purpose of the website is visibility and advertising.	61.0	67.5	56.7
The business or organization has separate addresses with individuals handling their own email.	37.4	33.1	40.0
Computer/Internet training is provided to employees.	26.5	30.2	44.8
Some employees telecommute	24.0	16.8	17.5

Table 46. Use of the Internet for business in the Central Economic Development Partnerships.

Internet use for business	Charlotte, USA percent of positive responses	Piedmont Triad percent of positive responses	Research Triangle percent of positive responses
Customer service	40.7	38.2	42.7
Sales and marketing	37.9	40.4	39.2
Purchasing	40.0	40.4	40.5
Communicating with suppliers	43.9	44.4	38.8
Conducting research	60.4	61.2	55.6
Communicating with employees	39.3	38.2	38.4
Vendor relations	24.2	22.5	22.8
Government relations	20.0	22.6	21.1
Quality assurance or control	14.7	14.6	11.2
Other	7.4	9.9	11.3

Table 47. Use of the Internet for business in the Eastern Economic Development Partnerships.

Internet use for business	Southeast percent of positive responses	East percent of positive responses	Northeast percent of positive responses
Customer service	35.6	43.1	42.6
Sales and marketing	39.4	43.1	29.6
Purchasing	34.6	35.3	35.2
Communicating with suppliers	28.8	37.1	31.5
Conducting research	46.2	49.1	51.9
Communicating with employees	26.0	33.0	35.2
Vendor relations	15.4	25.9	18.5
Government relations	17.3	19.8	20.4
Quality assurance or control	11.5	16.4	11.1
Other	16.3	10.3	7.5

7. Concluding Comments

This study of business use of the Internet in North Carolina provides statewide estimates of the overall incidence of business use of computers and the Internet, and makes comparisons between urban and rural areas and among various regions of the state. Most organizations in the state use computers, and the majority of those with computers are connected to the Internet. Although 63% of businesses and organizations in North Carolina are connected to the Internet, and the majority (54%) has broadband connections, there is substantial room for progress. Also, broadband connections and use of the Internet for business purposes in rural areas lags that of urban North Carolina.

Regional differences generally reflect rural-urban differences. Businesses and organizations in the more urban central part of the state are more likely than those in the west or east to use computers, utilize an internal network and be connected to the Internet. Rural areas still lag behind the urban areas in the utilization of broadband connections to the Internet, and consequently, lag behind urban areas in the extent of use of the Internet for business purposes. Continued efforts by the State to support the deployment of broadband into remote rural areas and to enable rural organizations to provide training in basic computer literacy and Internet skills will help “level the playing field” and encourage economic development in rural North Carolina. Over time, with an increased availability of low-cost broadband connections, rural organizations will catch up with their urban counterparts.

APPENDIX

Survey Instrument

Internet Access and Usage Phone Survey for Businesses and Organizations

Hello, this is _____ calling for the Regional Development Institute at Appalachian State University. We are researching business use of the Internet for the North Carolina Rural Internet Access Authority. This survey will take less than 10 minutes and your responses will be strictly confidential. Do you personally know enough about your company/organization's computer and Internet usage to answer a few questions? (**If yes, proceed; if no, ask " Will you please transfer me to the appropriate person?")**

First, in which county is your principal business location? _____

How would you classify your business/organization? Is it construction, manufacturing, retail, etc.

____ Construction
____ Manufacturing
____ Transportation and public utilities
____ Wholesale trade
____ Retail trade (includes restaurants)
____ Finance or Insurance
____ Real estate
____ Health care
____ Hotels and other lodging
____ Legal services
____ Business services
____ Educational services
____ Entertainment services
____ Other services **(Describe.)**_____
____ Government program or enterprise
____ Other **(Describe.)** _____

Is this a local company or organization, or is it a branch or franchise operation?

____ Local company or organization
____ Branch operation
____ Franchise operation

4. What is your position or primary responsibility with the company?
_____

5. How would you rate your general knowledge of the Internet and using email? Is it high, moderate, or low?

____High
____Moderate
____Low

(For branch or franchise operations say:
"The remaining questions pertain to your local organization only".**)**

6. Approximately how many people are employed in your business/organization? _____

7. Does your firm/organization use computers?
____Yes. **(Skip to Q8)**
____No**. (Ask Q7A)**

7A. Does your firm/organization plan to purchase computers this year?
_____Yes **(Skip to Q16)**
_____ No **(Skip to end… thank you)**

8. Does your company or organization have an internal network (or LAN) for sharing data and files?
____ Yes
____ No

9. Is your firm/organization connected to the Internet?
____ Yes. **(Go to Q10)**
____ No. **(Ask Q9A and 9B)**

9A. Which of the following best describes why your firm/organization is not connected to the Internet?
_____No need
_____Lack of training/technical expertise in the **company/organization**
_____Security concerns
_____Cost
_____Other. Explain. _____

9B**.** Do you plan to connect to the Internet during the next year?
____ Yes. **(Skip to Q16)**
____ No. **(Skip to end.. thank you)**

10. How are you connected to the Internet? (Check all that apply.)
____ Dial-up Internet accounts.
____ ISDN line(s).
____ DSL line(s).
____ T1 line(s).
_____Greater than T1 (DS3, OC3, OC48).
____ Cable modems.
____ Dedicated data lines.
____ Internet connection by satellite.
____Wireless
____ Other Connection. **(Describe) _____**

11. Do you use a local provider or a national company, such as AOL, for your Internet service?
____ Local (**Include regional organizations, such as NCREN)**

____ National
____ Don't know

12. What is your satisfaction level with your current service?
____ High
____Moderate
____Low. (**If low, state reasons)** _____

13. What percentage of your employees have Internet access at work? **_____(If 0%, skip to Q14; if more than 0% ask Q13A)**

13A. Do you have concerns about the inappropriate use of the Internet/email by your employees?
_____Yes. **Explain**_____
_____No.

14. Which of the following work-related activities do your employees conduct over the Internet? **(Check all that apply.)**
____ Customer Service
____ Sales and Marketing
____ Purchasing
____ Communicate with suppliers
____ Conduct research (i.e. competitive analysis)
____ Communicate with employees
____Vendor relations
____Government relations
____Quality assurance/control
____ Other **Describe. _____**

15. Where does your business/organization use the Internet to conduct business? Is it…
(Check all that apply)
____ within North Carolina?
____ within the United States?
____ globally?

16. How are technology decisions generally made within your company?
___Company officers make decisions
___Company has full time IT person on staff
___A committee makes recommendations
___Other **(please explain)**_____

17.Does your business/organization have a web site?
____ Yes. **(Ask 17A.)**
____ No. **(Skip to Q19)**
____ Used to have one**. (Skip to Q17B)**

17A. How long has your business/organization had a web site?
____ 0-1 years
____ 1-3 years
____ 3+ years
(Skip to Q18)

17B. Why does your business/organization no longer have a website? (Check all that apply)
____ Cost
____ Not effective
____ Difficulties with the hosting company
____ Difficulties with website designer
____ Time to keep updated/maintained
(Skip to Q19)

18. What is the ***primary*** purpose of your web site? **(Check one)**
____ Visibility and advertising.
____ Online customer support.
____ Online sales.
____ Internal communication.
____ Communication with suppliers.
____ Other. **Describe.** _____

19. Do you have security concerns in using the Internet to conduct business?
____Yes. **(If yes, ask:)** What are they? _____
____No

20. How is your company e-mail handled? Do you have …
____ a company e-mail address with messages handled by designated staff members,
____ separate addresses with individuals handling their own e-mail, or
____ a combination of the two?

21. Do any of your employees telecommute?
____ Yes
____ No

22. Does your business/organization provide any computer/Internet related training for its employees?
____ Yes. (**If yes, ask:)** What kind of training is provided**?** _____
_____
_____No.

23. Would your business/organization be interested in any of the following seminars or workshops? **(Check all that apply.)**
____ Effective uses of email
____ Marketing and advertising via the Internet

____ Website development and maintenance
____ Connectivity and infrastructure
____ Document management systems
____ Security
____ Other **Describe.** _____

24. Do you need assistance with updating the use of technology in any of the following areas:
    ____ Taking business operations on the Web?
    ____ Updating the tools and processes used in your production/manufacturing efforts?
    ____ Updating your management processes?
    ____ General applications of technology for your business?
    ____ other issues? **Describe.** _____

If any items are checked in response to Q24, say: If you want some guidance on where to seek assistance, you may call the Rural Internet Access Authority staff at 919-250-4314 or fill out the contact form at www.enc.org**.**

Thank you very much for your time and for participating in this survey!

Rural Internet Access Authority
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Raleigh, NC 27610
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www.e-nc.org