Teleliteracy in the West: Developing Community Internet Activists On the New Mexico Frontier

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Introduction

The Old West frontier spirit still exists in many rural counties of the West. The 2000 U.S. Census reveals New Mexico retains its Old West character much more so than any other state (12-p. 2). If outreach to rural audiences is successful here, other rural areas can learn from our experience.

Economic survival in the future will depend to a large degree upon the use of information technology. Many rural decision makers and businesses are not convinced of the magnitude of this development. It is possible for businesses in rural New Mexico to compete nationally and even worldwide, but the necessary adoption of new innovations and technology is limited. Perhaps even more important than the lack of telecommunications infrastructure in rural areas is a general lack of understanding of the importance of joining the Information Economy. For business, "the key question is not whether to deploy Internet technology – companies have no choice if they wish to stay competitive – but how to deploy it." (13-pp. 63-78).

As a tool, the Internet can help rural communities and businesses overcome many of the traditional barriers to viable economic development, such as isolation, low population density, and mobility disadvantages. The Internet has provided a means of defeating distance disadvantages, but implementing the new technology has not become a high priority.

It makes sense for those in rural areas to turn onto the Internet – today's electronic highway – to take them where they need to go. It's faster. It's more efficient. It's more convenient. It's the main road to the mainstream for rural and minority citizens, giving them access to new knowledge, enhanced lifestyles, more efficient community services, better business practices, and greater prosperity.

As consumers and businesses become used to the convenience of conducting business via the Internet, they are beginning to demand the same sort of convenience from the government. State and federal governments are putting more of their services online, and city and county governments are doing the same. Electronic procurement, paying taxes, registering vehicles, viewing zoning maps and checking county assessor records are only a few of the things now done on the Internet that were not possible a few years ago.

Involvement in Internet programs is not optional for a prosperous rural community. The need for broadband Internet access must be recognized, and a policy of activism followed to counter the lack of infrastructure and information. Even more important, however, is the need to realize we can join the Information Economy with the infrastructure we now have, however inadequate it may be. We cannot afford to wait and hope good things will happen. Local Internet activists must be found or created to drive the process of joining the Information Economy. Becoming an Internet Activist means understanding what the Internet connection can do for you, making a plan for your community's future, working with telecommunications companies and Internet Service Providers to make telecommunications part of that future, and making sure every part of the community buys into and works toward achieving your goals.

The New Mexico Teleliteracy ABCs program seeks to convince local leaders that joining the Information Revolution is key to long term economic survival. The question to be answered is how can your community and your business join the "winners," those who opt to join the revolution and use cutting edge electronic technologies to their advantage.

The Program
(http://www.nmtabcs.org)

Background

The Teleliteracy Assistance for Businesses and Communities (Teleliteracy ABCs or T-ABCs) program began in May 2000 with a $250,000 grant from Qwest Communications International, Inc. (formerly US West). The program was designed to establish realistic expectations while stressing the importance of the Internet and related technologies to the economic and social well being of rural communities and businesses in New Mexico. In addition, the program aims to raise awareness among local businesses owners and government leaders about the growing "digital divide" between urban and rural areas and the need to bridge that gap.

Each of the four modules in the T-ABCs program is aimed at a distinct rural audience: the general public, business and community leaders, individual

business owners, and local government/community officials. T-ABCs offers basic tools to independently take advantage of increasing e-commerce and e-government opportunities.

T-ABCs curriculum were developed by faculty from New Mexico State University's College of Arts and Sciences, College of Business and Cooperative Extension Service in the College of Agriculture and Home Economics. Extension's video and Internet production unit developed tools for the programs including a site on the World Wide Web (http://www.nmtabcs.org), CD-ROMs, videos, DVDs, print materials and workbooks. In developing the educational materials, New Mexico business people and community leaders in rural areas across the state were interviewed to provide examples of successful use of the Internet in e-commerce and e-government.

During the development of the program, one of the modules was presented in each of six pilot communities in the winter and spring of 2001. Audiences were generally small, but highly complementary about program materials. Low audience turnout emphasized the need for local activists to promote the Internet as essential to rural business and community economic survival in the Internet Age.

Module 1: E-asy Does It! Welcome to the Electronic Age

Designed for general audiences, this 30-minute program, highlights the many ways rural New Mexicans can benefit by traveling the information highway. Everyday the Internet has more to offer, including more ways to save time and money, more ways to make money and more ways to make people's lives better. The short video and guidebook that comprise Module 1 share how technology and successful Internet ventures are enriching rural New Mexicans lives.

The Internet allows Debbie Hughes to juggle a professional career with a rural lifestyle on the family ranch some 70 miles southwest of Carlsbad, near the Texas-New Mexico border.

Module 2: Embracing the e-Revolution: A Call for Rural Internet Activists

This module is aimed primarily at business and community leaders. This one-hour module consists of a 20-minute video and guidebook showing rural leaders why the future health of their businesses and communities depend on their becoming Internet activists. Local Internet activists must be found or developed to drive the process of joining the Internet economy. Becoming an Internet activist means understanding what the Internet connection can do, making a plan for the community's future, working with Internet Service Providers to make

telecommunications part of that future, and making sure everybody in the community buys into and works toward achieving the goals.

Module 3: The ABCs of e-Business

The ABCs of e-Business is an eight lesson workshop series, in addition to the video introduction from Module 2. The goal of the series is to teach business owners and entrepreneurs how the Internet and related technologies can add speed, efficiency and profitability to every step of the traditional business process. Lessons cover:

- A Call for Rural Internet Activists
- Opportunities for New Mexico
- Using the Internet to Learn About Your Markets
- E-Communication and Product Creation
- Informing the World Via the Web
- Selling in Cyberspace
- Delivering the Goods
- Electronic Payment
- After-Sales Support

The main purpose of this module is to get business owners excited about the possibilities electronic telecommunications hold for their businesses and to provide an understanding of how the technologies are relevant to their particular businesses. Several rural New Mexico businesses are used as examples of success.

Module 4: The ABCs of e-Government

The five lesson series that makes up Module 4, The ABCs of e-Government also begins with the video from Module 2 encouraging Internet activism. As stated previously, as consumer and business people become accustomed to the convenience of conducting business via the Internet, 24 hours a day, seven days a week, they are beginning to demand the same sort of convenience from government. This series shows community leaders the many ways electronic telecommunications technologies can increase interactions between local governments and citizens, make local government more efficient and effective, and improve the climate for community economic development. Much like Module 3 the e-Government series' main purpose is to inform, excite and educate local officials concerning the possibilities of electronic telecommunications for their communities.   Lessons include:

- A Call for Rural Internet Activists
- Overview of e-Government
- Government Leadership and e-Government
- Planning for e-Government
- Telecommunications Infrastructure
- Creating and Evaluating a Government Web site

E-Business Evaluations

The ABCs of e-Business was presented three times during the pilot stage of the project. Rated evaluations for the three presentations are summarized in Table 1.

Two observations can be made from the evaluations. First, the attendees were positive towards the materials and presentation. Second, the attendance was low. Implications of this are covered in the next section.

TABLE 1

The ABCs of e-Business
Las Vegas/Bloomfield/Des Moines
Cumulative Evaluation Forms Summary
(43 respondents)

Percent	Attendees by type
53.5	Small business
2.3	Large business
11.6	Education
7.0	Government
25.6	Other
100.0	**Total**

	Dissatisfied				Satisfied	
	1	**2**	**3**	**4**	**5**	**Total**
	- - - - - - - - - - - - - - - - - P e r c e n t - - - - - - - - - - - - - - -					
Did this workshop meet your expectations?	0	0	7.0	37.2	55.8	100
Content of this workshop:	0	0	4.7	34.9	60.5	100
Organization of this workshop:	0	0	0	16.3	83.7	100
Instructor=s pace/delivery:	0	0	0	16.3	83.7	100
Opportunity of audience participation:	0	0	16.3	18.6	65.1	100
TOTAL	0	0	5.6	24.7	69.8	100

Selected Quotes from Attendees

What did you like most about the workshop?

- Michael is great! Some ideas I can use. Presentation mechanics great too!
- Everything.
- Information on electronic payments.
- Presenter spoke clearly, gave time for questions & comments.
- Good coverage of the spectrum of issues.
- Instructor very good, knowledgeable. Learned some things I was not aware of.
- It was easy to comprehend without having to have dealt with the topics covered.
- Broad range of topics. Good materials (easy to follow).
- The content organization. Great overview! Good for "average" layperson.
- Answered concerns which could not be answered without workshop.
- Effective lecture.
- Introduced methods of conducting research on the web.
- Instructors did a great job integrating the jargon into the lessons in a way that business people could understand.
- The notes in workbook are very helpful and web site references.
- Informative instructors, updated material for most recent programs.
- The hows, whys & what fors of Internet & e-business.
- The information presented was very informative and the program was simple concise and easy to follow.
- The presenters willingness to address individual questions, concerns and problems.
- Very informative.
- The instructor was extremely well informed.
- The presentation was clear and not confused.
- I found the workshop very informative and exciting. The information about web servers was interesting, I wish I had known it 6-months.
- The learning of the other systems of the computers for business.
- Opportunity to network, good energetic presentation.
- The time that they took to explain and answer our questions. Very well done.
- The presentation was great. Had a lot of energy. I always enjoy learning.
- Instructor kept the pace and enthusiasm up.
- Lots of info, presenter was personable, lots of donuts.

What did you like least about the workshop?

- No "hands-on" but understandable given the setup.

< Would have liked more on comprehensive marketing (on and off-line efforts).
< Would have liked more time in order to have more participant interaction.
< Short length.
< Might need to extend time for demonstrations on the net, on the various topics i.e. attaching, sending invoices, etc..
< I would have liked to hear more input from local businesses.
< Too elementary, no hard core examples.
< Realizing how much more I have to learn!

What suggestions would you give to make this workshop better?

< Would be interesting to have more multimedia.
< When possible, have some "hands-on".
< Bring in speakers from different areas (web consultants).
< I am not knowable enough to be critical. They did a good job!
< I would not change the format, it is concise and informative.
< More detail dealing with the Internet.
< Better advertising that would explain the actual content.
< Some small group time to help new people assimilate the information.
< It may be helpful to have "group sharing" of ideas (depends on the group!).
< Opportunity for follow-up when implementing information?

Did you learn anything that will help you improve a business process when you return to your business? Please explain.

< All of it.
< Yes, but my only problem is to just get some of this stuff done. Time!
< Basic information to give my business members.
< Design of site for better information to users.
< Yes. New options for security. Ideas for customer service.
< The information will help to start moving business on line.
< Good ideas for after sales support (electronic invoicing & tracking). Securities issues section was informative.
< Perhaps opportunity to use course as outreach for customers.
< Si, made me more willing to apply the web to my business.
< Yes - information helpful in developing on line productivity.
< Will help to improve communications w/webmaster & determine the potential to increase business via the Internet.
< Learned much. I am going to re-read papers from1998 on what we paid for & why i.e. encryption protection, search engines, etc., security.
< Great strategies for marketing, market research & customizing a firm's effort.

- < I need more info about hidden costs and actual costs. This was a super class! Instructors very knowledgeable. The class opened up at the end which improved everything.
- < The sources available feel much more accessible.
- < Yes- I was provided an economical method of building my website, registration of website info, etc..
- < Yes - will check on competitors.
- < Helps me to plan future business.
- < I learned about some options and alternatives that I did not know about.
- < That there is a lot of information of different Internet sites and what to look out for more profits in business options.
- < Yes, that e-business is not near as scary as first thought.
- < Gave me a starting point to learn more, opportunities to follow-up on, ideas to put in place.
- < Most definitely. Ideas for current business and stimulation of courage for new venture will be researched.
- < Gave me a good idea of what is involved in e-business.

Early Lessons Learned

Lessons from the pilot workshops and other presentations were varied. Audiences were small in each of the pilot workshops. Responses were always very positive, but the small turnout indicated few felt the subject was a high priority. Only the three e-business workshops were formally evaluated. Two e-government workshops and one each of the other two modules were also presented in the pilot phase.

Other presentations of the material included

- May 2001 – The New Mexico Basic Economic Development Institute, Class of 2001
- June 2001 – New Mexico Small Business Development Center Directors.

Teleliteracy is not a high priority with many rural New Mexicans. This observation is based on turnout for the pilot presentations, subsequent overviews of the program with various audiences, and personal interactions with people throughout the state. While many professionals and local leaders see the importance to long-term economic survival, implementation of available information technology is lagging. Supply has outrun demand. For this reason, inspiring and empowering local Internet Activists acquires added importance.

Because of the experiences described above, Module 2, Creating Internet Activists, was incorporated into modules three and four as an introductory segment in the final products. In the original pilot workshops, the "Activist"

module was not included in the business and government modules. Module 2 also remains as a separate module.

During the pilot stage this module was determined to be of greatest immediate importance, because of a reluctance of many rural residents to realize the importance of teleliteracy. This module is an advocacy program and sends out a call for "Rural Internet Activists" among rural leaders at the community level.

Telecommunications infrastructure, high-speed Internet access, and related expertise are limited in rural areas. Local advocates are needed to convince local businesses and community leaders of the importance of working together to overcome these limitations. Active leadership at the local level is crucial to bringing about change in a timely manner.

An Activist asks three questions (8-pp. 188-206). What is changing in our world? What are the associated opportunities? How can we take advantage of the opportunities? The Activist works to convince others of the importance of the answers.

Somehow the importance of teleliteracy and Information Economy tools must be conveyed as a need that deserves attention in the daily grind of rural people's lives. As one rural county Extension agent said, people are spending all of their time making ends meet in rural areas. Many think they do not have the time to learn to use the Internet, for example.

Another lesson learned from the pilot workshops may offer a partial solution to the problem outlined in the previous paragraph. Hands-on learning should be a part of basic teleliteracy training. The New Mexico materials were initially designed without requiring a computer lab or live one-on-one Internet tours. However, audiences quickly moved to the point of wanting hands-on experience. Some exercises are needed to quickly illustrate the relevance of the Internet to current interests and concerns of the student.

OBSERVATIONS AND CONCLUSIONS

Significant changes are occurring in economic systems. Information technology, the Internet and related business innovations enable new approaches. Basic business and economic principles remain in effect, but changes in information characteristics have altered some of the fundamentals (7-p. 283).   To be competitive (and survive), business and government must consider the Internet as an essential tool. Denial is dangerous. The rules of the game are changing.

There is no roadmap, no cookie-cutter answer. To survive and grow in the current economy, business must enter new markets. The balance of power between rural and urban business can shift, because the Internet is a two-way highway, but positive action is required for rural businesses to realize their potential.

Old business models of a decade ago have been "blown to bits" by changing the competitive advantages of businesses (6-p. 58). Rural businesses, and rural communities as well, are operating in a new economy where competitive advantages have been redefined.

For about five years the Internet grew by staggering amounts. Dot.coms were formed at a rapid pace.   By the year 2000, the dot.com bubble was pricked and "irrational exuberance" was rationalized (apologies to Alan Greenspan). The Internet continues to grow rapidly, but dot.com mania has subsided.

But life was changed forever. The Internet is here to stay. The new technologies bringing us information have created what some call the Information Technology Revolution, or the IT Age. However, Information Technology is but a tool. Economic change does not originate with technology without a compelling reason to adopt the technology. Technology enables change, but people (e.g., business people) must adopt, adapt and implement the technology to their situation. The Internet, computer and electronic technology, and communications technology only provide the necessary infrastructure for the applications phase. The Information Economy is about the applications of technology: data mining and utilization, knowledge management, business intelligence, and business strategy.

The Information Economy was enabled by IT. The "Q Factor" created a situation for applications that are only being realized in very small ways especially in rural areas. The "Q Factor" or (())"Q cubed," has to do with information and the resultant opportunities. The Quantity of information is awesome! The Quality of information is potentially overwhelming! And the Quickness with which that information is obtained would have been judged impossible a decade or so ago. The changing access to information occurs irrespective of geography, and presents rural businesses with an opportunity to compete on a new footing with urban counterparts.

The problem we face now (or is it rather an opportunity?) is that technology has outrun applications especially in rural areas. How do we use all this information? How is the information converted into business intelligence for competing in the new Information Economy? The Q Factor has presented business with a new challenge: economic principles are much the same, but the change in information quantity, quality and quickness has changed the competitive landscape.

For purposes of this paper, the important relative change in the competitive situation has to do with rural businesses and rural communities. With just a little innovative thinking we can see that some of the traditional factors causing rural

declines have been altered by the components of the Information Economy. The challenge for educators concerned with rural economic survival is to assist in defining the new competitive advantage opportunities.

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ABSTRACT

The New Mexico Teleliteracy Assistance for Businesses and Communities program was funded by Qwest Communications International, Inc. This program is composed of four modules aimed at four rural audiences; the general public, business and community leaders, individual businesses, and local government. The intention in the entire Teleliteracy ABCs program has been to stress the importance of the Internet and related technologies to the economic and social well being of rural communities and businesses in New Mexico.

In developing the educational materials, New Mexico business people and community leaders in rural areas across the state were interviewed to provide examples of successful use of the Internet in e-commerce and e-government. Materials developed include promotional pieces, a web site, audience workbooks, DVD movies, videotapes, CD PowerPoint presentations with imbedded video clips and web sites, trainer notes, and speaker notes. Train the Trainer sessions were held with Small Business Development Centers and others to develop local non-Extension trainers.

In conducting one of the modules in each of six pilot communities in the winter and spring of 2001, audiences were generally small, but highly complementary about program materials. Low audience turnout emphasized the need for local activists to promote the Internet as essential to rural business and community economic survival in the Internet Age.

During the pilot stage the second module was determined to be of greatest immediate importance, because of a reluctance of many rural residents to realize the importance of teleliteracy. This second module sends out a call for "Rural Internet Activists" among rural leaders at the community level. Subtitled "A Call for Rural Internet Activists," module 2 is an advocacy program. Telecommunications infrastructure, high-speed Internet access, and related expertise are limited in rural areas. Local advocates are needed to convince local businesses and community leaders of the importance of working together to overcome these limitations. Active leadership at the local level is crucial to bringing about change in a timely manner.