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**Final Paper and Report, Part II
New Media Technology in Carter County,
Montana**

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*A new Age is dawning
New Media will reconfigure distance
Common Dream, New Information Society [8]*

1 Introduction

The term *New Media Technology* in this paper shall not be defined precisely, but will stand for what is currently considered new communication technologies, such as videoconferencing, cell phones, electronic mail and electronic data exchange through the internet. Using these means for running a business nowadays falls under the broad term “*e-commerce*”.

As these new keywords created a magnificent hype in the last few years, I was interested in the current implementation and usage in Carter County, Montana, a place considered rural America and the destination of this Summer field course from the Department of Geography. What do the people of Ekalaka think about this new technology and how do they use it?

2 Context Review

2.1 Timeframe

The field work was done from monday the 2nd August to friday the 13th, 1999. Six days were spend in Ekalaka, where the group stayed at Camp Needmore in the Custer National Forest.

2.2 Location

Carter County lies in the south-east corner of Montana. The county capital and biggest town with about 440 inhabitants is Ekalaka (45°53'20"N 104°33'8"W). Ekalaka is not a freeway site attraction, but remains about 150 km south from Interstate 94. The next biggest town is Baker, in Fallon county to the north with about 1800 people. Distances are easily measured in drive time and the 55 km to Baker are easily worth half an hour. The next bigger city is Miles City, about another hour away.

Carter County borders to Harding and Butte County in South Dakota in the East. Extending to the south is Crook County, Wyoming. Touristic brochures divide Montana in six "Countries". Custer Country is the huge south west region of Montana containing our county.

Only about 1500 people live in Carter County. But they have a high-school, a nursing home and a little library in Ekalaka.

2.3 Literature

A huge amount of literature was published about new media, ranking from serious research to the written manifestation of dreams for a new communication age. Nonetheless to find precise information about practical implications in rural america and especially the South East Corner of Montana was not succesful. Research in the UWM Library did not reveal scholarly articles or good books about the issue. Mainly because of the spacial focus of this study and the fast recent development in the subject.

At least it could be found that Montana certainly was not a location attracting a lot of High-Tech industry before the mid 1980s [1].

Somebody concerned with new media like the author would do the obligatory internet search. The results did not help in preparation of the trip, as webinformation about and around Ekalaka are hard to find. Once a starting poitn was found in the Montana State online pages [5], you can find a lot of economical numbers about the region, but still a lot of web-pages in the area are unlinked and and cannot be reached by search engines.

3 Field Methods

Due to the short time frame of this study and the lack of experience by the researcher, qualitative Interviews were the only suitable field method. Personal observations and communications provided further insights.

The first days were used to get an idea who the key players are and whether some of them want to give away more information. The author of this paper also conducted research on another topic which gave him the possibily to ask sidequestions about the regular use of new technologies. The nature of this method is, that insights learned in the converstation helps to focus the research and formulate better questions.

The following topics were touched in most of the informal interviews:

- Usage of Computer?
- Frequency of the Internet use?
- Business use of the new technologies.
- Educational use of the new technologies.
- Satisfaction with the Provider?

4 Results

4.1 Community Online in South Dakota

On the way to Ekalaka a roadside attraction catches the eyes of the traveller. Visiting the Petrified Wood Museum in Lemmon, South Dakota bears a surprise if you happen to read one of the flyers. Out there Lemmon has a Community Website [2] which even features a virtual tour of the museum and the park. Additionally they also have a live webcam and offer a CDrom with movies, sound clips and pictures of the local school. And all that in a city with 1600 people far away from America's big cities!

4.2 Government offices

The office of the Nation Resources Conservation Service, our first visit in Ekalaka showed relatively fresh computers. Some old PC were still visible, but the new ones were bought at Gateway and running Windows.

The Nation Forestservice Bureau also uses Personal Computers running NT. Standard office software noticed was Applixware. They are connected using the internet to an AIX Unix server in a different office. To run applications from there, the PCs were running a Hummingbird X11 server. The graphical user interface standard was the Common Desktop Environment.

Reportedly the forest service people are not entirely happy with the office suite, though it works. And they were the last to get this sort of computer installation and the connection to the network host and in that sense the headquarters using the internet [12].

4.3 Small businesses

4.3.1 Saddle Shop

The Saddle shop in Ekalaka [13] recently went “online”. They have a few webpages mostly with contact information and business description. People already called, emailed or dropped by finding the shop over the world wide web, but they sold nothing online so far. The owner holds a college degree and moved back to Ekalaka a few years ago. To the time of writing the webpages are still partly under construction.

4.3.2 Outfitter

The successful Outfitting business of Jamie and Juanita Byrne advertises over the internet since January 1998. They are part of a hunting information website and use the full advantages of being part of a bigger system. A lot of people seems to call them because of the webpages. Their world wide web presentation is considered a success. Other advertisement means were subsequently cut. An agency, in contrast, would keep a 10 to 15 percent as margin [16].

4.3.3 Newspaper

The local weekly newspaper does not have a webpage, but articles sometimes get submitted by email. A webarchive of backissues is regarded useful, but as possible threat to the number of subscriptions. The paper is typesetted on elderly 486 PCs running Windows 3.1 and Adobe Page-maker. The used spreadsheet is Lotus 1-2-3. The owner is satisfied with the software, but plans to upgrade the hardware sometimes. Another idea is to send the typesetted pages to the printer using email, which would save them a long drive [18].

4.4 Private Use

Email and the world wide web are the most used internet applications. They are heavily used for personal research and school. Gateway computers seem to be popular [13, 15].

4.5 Public use

Since May 1999 the small Ekalaka library features an internet access for public use. It is very frequented. People use it for all kind of research and email. Some even look for a job over the internet. In a couple of hours visiting the libray the computer was almost constantly in use by locals.

4.6 Communication Provider

The Mid-Rivers Telephone Cooperative was established in 1952 and provides phone and other services to 20 counties in sout-east montana and one in North-Dakota. They employ 110 people and the headquarters are in Circle, MT. They have a small office in Baker [3].

Mid-Rivers offers the full range of services to its customers and is still enlarging their business range. They participated in building up the interactive television network in montana. Besides that and the stationary phone service, they also offer cable, wireless communication, long distance, internet and assorted service offerings. The cheapest dial-up account is available for 7.50 \$ including 10 online-hours. On a sidenote it is interesting that they limit the free speech over their network in regard of sexually explicit images and they also retain the right to monitor any conversation, when they think it is necessary [4].

As access requirements for the latest "Mid-Rivers Internet software" they mention Intel 486 PC and Apple PowerPC/68030s hardware. Though only talking about Microsoft's and Apple's operating systems, they are running RedHat GNU/Linux and Apache on their company webserver.

People in Ekalaka are thinking positivly about the phone company. They attributed them being modern and progressive. It certainly helped that they started out as a cooperative.

The phonebook published by Mid-Rivers even contains email addresses.

There ough to be another Internet Service Provider(ISP) in Baker, called MCN. More information were not aquired, because the author met no person which used that ISP.

4.7 Computer Service

Commercial computer service cannot be found in Ekalaka directly and once again Baker jumps in to help. In Baker about two companies offer

computer hardware or services. Hardware itself can easily be bought using one of the direct PC vendors, but installation, training and network-setup cannot.

The Nybbles 'n' Bits Computer Services Company [6] was founded by an by a librarian in 1997. They provide all kind of service in a 320 *km* radius. They serve about 800 customers and provide service for 35\$ an hour or 45\$/h on weekends and holidays at client locations. Additional information about other computer service provider in the area was not gathered.

4.8 Highschool

A Federal Grant over almost 100,000\$ helped the Ekalaka schools to get connected to the internet. They got their network up in 1998 and also try to connect the Elementary School with the Highschool. Aparently they have a computer in every classroom and another 14 machines in a dedicated room.

Students are provided with some personal network diskspace and their own password. They do not get a school email address and most of them have access to a computer and internet at their home. To access the world wide web, a teacher has to give a password and than has the responsibility for the session. Otherwise highschool students shall be taught the use of "the basic applications".

Software technology is limited to Microsoft. The person responsible for the network and the computers, a teacher who taught himself the computer skills, states that this is the best software available. The Elementary school also looks into a few other educational programs.

The highschool runs a firewall and hides the sub IPs of the local area network. They are connected via a 56kbit modem line by Mid-Rivers. Nybbles-n-Bits helped with the firewall and network software installation. The wireing was done by the school themselves. Computer hardware seem to have been ordered by Gateway.

The school building also host the PBS public broadcasting hardware and the Interactive Television room.

4.9 Interactive Television

Interactive Television (ITV) was installed ten years ago and basically consists of a video conferencing system. The student can receive transmissions of classes taught at different locations and interact back through camera and microphone. Experiences have been good with the system, which is not as good as the real thing, but the next best. Considering the large distance in Montana it is cost effective. The ITV installation, which by the way was done by the Mid-Rivers Telephone Coop, is used a lot [17].

5 Discussion

5.1 Interactive Television

Interactive Television actually makes sense in this context, where driving time is the largest access limit to education. Videoconferencing is not really that successful in spite of what company's marketing departments stated for years, but giving the setting it very well could be a good thing here. This judgement lacks a more detailed examination of the usage of this technology, though.

Giving that ITV exists in Ekalaka for a decade it might not really be considered a completely new media. It will eventually be phased out by the internet, but not too fast, because bandwidth for a usable videoconferencing for everyone is probably years away in this area.

5.2 Computers

How Ekalaker personally use their computers is still largely unknown. It is clear though, that they have affordable access to hardware and service. Education seem to prepare kids for use of these tools so they will not fall behind their colleagues in urban living situations.

It should be noted, that no person holding a computer science degree or otherwise formal education in computers was met during the study. Obviously Mid-Rivers will have some experienced employees, but no such expert is within easy reach of the people and the schools in Carter County. The common knowledge therefore especially lies at the companies and

the state school system to teach people about recent development on the computer market and give them a greater choice they might not see in the ad campaigns of major hard- and software vendors.

5.3 Internet

Thanks to the progressive telephone company, internet is largely and economical available in the county. Hardware and software requirements are reasonable and people use it for private email or research as well as business advertisement.

The world wide web sites visited were mostly not state of the art, though in line with common approaches to internet presentation. It should be understood that poor webpage design mostly will not create much business, as the web has to be better as reality to allow you to profit from this media [7]. Therein lies the danger, that it might take some time before web developers in rural areas will have learned how to understand Web business.

As example the outfitter's webpages replace his other advertisement and to a certain extend the flyers. But it is only a bit better as reality, because people can get information faster. A significant improvement would be to let people know what time spots are currently available and let them book the hunting trip right over the web.

The example of the saddle shop shows that the internet also brings back some competitive edge to the country site. With their huge radius of operation and unique products they are now able to reach a wider audience, but still stay in Ekalaka with the slow life and lower costs. In an ideal case they might even ship their saddles out there to the rest of the world.

6 Conclusions

There are certain ways to react to this wave of new technology and new media coming over the country. Thomas [9] uses five categories, namely "denial, anger, deals, acceptance and transcendence". No hints of denial or anger over new technologies in this corner of Montana could be found. Everybody was relatively positive about it and this is a good sign. Internet and computer technology is accessible for all uses. The new means of communication bring a bit of Montana closer to your living room.

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