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**New Media Migration:
Digitization and Computer Networking
Technology Use in Three Community Newspapers**

**A Dissertation
Presented for the
Doctor of Philosophy Degree
The University of Tennessee, Knoxville**

**Larry Shane Taylor
May 2007**

DEDICATION

To my wife, with love and gratitude,

Mary Oliver Taylor

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I would like to thank the many people who provided assistance in the process of creating this dissertation.

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ABSTRACT

The study contributes to the understanding of how technology adoption effects organizations in structural and procedural operations. Specifically, this investigation was motivated by the perceived need to understand how digitization and networking technology is affecting how a community newspaper is produced. At its core, this study seeks to provide a foundation to focus efforts to understand what digitization and networking technologies mean to the practice of community newspapers by first making it clear what is happening. By establishing a framework of distinct identification for the phenomenon, more accurately aimed study of it can begin to occur. This, in turn, can be helpful in shaping the process of studying similar conditions in other professional arenas.

The study provides a detailed qualitative analysis of the practical effect of digitization and computer networking technology on community newspapers. To guide this process, the study established clear working definitions for the key components; community newspaper, digitization and networking technology and effect. The study defined a community newspaper as any print news publication organization, regardless of circulation size or geographic location, which does not publish on consecutive days and which has as its primary editorial and advertising focus local content. Digitization and networking technologies were seen to encompass the range of technologies that exist to render information into digital form and to facilitate its transfer in digital form from one point to another. Effect was considered distinctly practical, the results of the technology on the process of producing the newspaper. The study reveals the currently limited scope of research related to digitization and computer networking technology and community journalism.

The study explores three individual cases to understand accurately and in detail the effect of digitization and networking technology on each community newspaper studied. Analysis of the data collected from each case study established the actual presence and identity of the digitization and networking technology in the community newspaper, and a detailed understanding of the observable effect of this technology on the processes of producing the newspaper product. Strong commonality in the findings of the three cases suggested that technology adoption has an effect on organizational structure as well as performance processes for incorporated participants.

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FOREWORD

Thousands of research articles over the past two decades attest to the significant effect computer technology and the communication networks it has spawned have had on the way people do things in areas ranging from education to entertainment to medicine and science to information processing and communication. My relationship with and curiosity about this situation began when my journalism professor, Mr. John Moore, took me aside during my second news writing class in the late 1980s to introduce me to the computer. Of course I already knew what it was. I already knew that you could “word process,” a fancy new way to say “type,” on it as well. What I hadn’t considered, and what my professor indicated to me, was that this device was becoming much more sophisticated and would eventually revolutionize how many professions, journalism included, are practiced.

Having no evidence to go on, I took him at his word... and doing so has made all the difference. In those days, building computers was an expensive proposition. A x286 clocking in at 8 megahertz with a full megabyte of RAM and a standard 20 megabyte internal hard drive would set you back \$1,000. A super-VGA 256 color monitor raised the cost to over \$1,200. But I stayed true to the course and built 286, 386, 486, 586 and 686 processor-based computers following the technology, both hardware and software, closely as it developed.

Nevertheless, I did not appreciate the advice of my professor fully until I went to my first job interview for a small daily newspaper in the mid-90s. By then I had considerable experience with computers. However, this was not readily apparent on my resume because my degrees, both B.A. and M.A., were in English Litera-

ture. The editor was considering me for a reporting position and not very impressed with my lack of experience. However, he allowed me to fill out an application, which included a section on technical skills. Figuring I needed to have something to say to balance my lack of experience, I explained that I could build computers and knew all the software programs related to making a newspaper. I remember seeing the office assistant hand him the sheet and point to it. I got the job... not as a reporter, but as a copy editor responsible for creating pages on a computer using desktop publishing software provided to the newspaper as an experiment by a software company. My relationships with journalism and the computer were now one.

Since that time, every position, advancement, and opportunity has come based not on my skills or experience as an editor or writer, but rather on my “added” capacity to use the latest technology. It was not that editing and writing skills were not important. It was that having the additional ability to negotiate the new technology environment seemed to separate me from an otherwise very even field. This even held true when I took the job of editor of a small-town community newspaper in the rural mountains of western North Carolina. That job became mine when I informed the publisher that I could easily manage the newspaper’s push to pagination and would have a Web site up and running within the week. Even my career in teaching has been powered by technical expertise in media graphics software and the technology that runs it. For me the phenomenon of technology in the newsroom isn’t just an interesting topic, it’s the story of my career.

While working in my final year as the editor of that community newspaper, I began to see more sophisticated networking technology emerge on the scene in interesting ways. I had, of course, been using the Internet for some time as the Web

editor and “wire” editor for dailies where I had been previously employed. But now, at the community paper, the publisher began asking questions about the feasibility of using e-mail instead of the phone for long-distance communication. We engaged ways to send materials via the Internet using increasingly faster connections instead of shipping them by truck. The publisher began to use “chat” software instead of the phone to converse with executives at corporate headquarters an entire state away. All this was motivated by a desire to, as the publisher put it, “save a buck.”

In my teaching, I try to convince students that technical skills are no longer a bonus. Now such skills are a basic expectation with employers. In teaching about technology, I have met with both enthusiasm and resistance. Students have expressed that they do not plan to work in a technical area but will simply write or edit and have no use for computer-based skills. Others have maintained that they intend to work for only smaller organizations, not “covered up” in the computer. At first I dismissed this as simply naive. Then I began to consider how little technology had actually been in place at the community newspaper when I arrived. Perhaps I was misjudging the level of digitization and networking technology actually at community newspapers. At the University of Tennessee I began to investigate the use of technology in community journalism. What I found was that very little research exists that is focused on community newspapers. In addition, none focuses on how digitization and networking technology has affected the practice. I began to question seriously just how deeply, and broadly, technology has impacted newspapers, particularly community newspapers and particularly the digitization and networking technology. This qualitative study attempts to begin to answer this void

in current research. Because the nature of qualitative research involves intuitive investigation by the researcher, it is important to begin with an understanding of any preconceptions that might affect interpretation of data. Being a former community journalist with an advanced understanding of the technology this study attempts to focus, of course I came in with expectations.

In general my expectations were that community newspapers would be similar to what I found in 1999. I expected to find a limited use of technology beyond basic digitization and internal networking. I expected to find personnel largely unaware of and potentially even uninterested in how new technology might change production for them. I expected to find simple networking elements related to the Internet, such as e-mail and using the Web, to be dominant. I made what I considered ample room for the possibility that some evidence might exist of digitization software and perhaps some data transfer integration. What I have found has completely reshaped my view of the potential condition of community journalism with regard to use of digitization and computer networking technology. Put simply, things have clearly changed since I was there.

CHAPTER 1.

SETTING THE STAGE

It is not news that technology—as it has done since the dawn of printing—is revolutionizing communication. The great changes wrought by computers mean that fundamental shifts are taking place. These changes are producing new problems and phenomena to investigate that must first be observed and identified. The logic of this argument became clear during multiple interviews where journalism professionals used the term “Internet” interchangeably with terms such as “e-mail” and “Web” as though they were the same thing. If researchers are to truly investigate the effect of a new influence or phenomenon within an existing paradigm, that influence or phenomenon must first be as distinctly identified as possible. The goal of this research was to provide a detailed analysis of the practical effects of digitization and networking technology on three community newspapers.

The American Heritage Dictionary defined technology as, “The application of science, especially to industrial or commercial objectives. The scientific method and material used to achieve a commercial or industrial objective.”¹ The value of this definition resides in the “process” implications of the definition. A clearer perspective was found in the more complex analysis of technology from Joseph C. Pitt:

“If there is a single feature that characterizes this technological society, it is the manner by which it changes. This is a complex process that begins either with a problem to solve, . . . or a new product to be

1. technology. (n.d.). The American Heritage® Dictionary of the English Language, Fourth Edition. Retrieved October 20, 2006, from Dictionary.com website: <http://dictionary.reference.com/browse/technology>

manufactured in order to make money. The process goes through a series of complicated feedback loops in which various proposals are entertained, tried out, modified in light of new information, and so on. How the problem is understood is modified by what is learned about the situation . . . The result of all this is a complex system through which certain problems can be solved by designing and making things that in turn do not always behave exactly as expected. This motivates another set of efforts, and the process continues. Knowledge, need, and use are in constant interaction and flux”²

What the passage makes clear is that technology is a process and that the process facilitates changes in the environment to which it is applied. In effect, it is the nature of technology to facilitate change. Over time these changes can result in other changes that in turn result in even more changes that render the environment very different from its original condition. Research is generally concerned with recognizing and understanding change. It is important to study technology in general because understanding the nature of changes enhances our understanding of the human condition. Research concerned with technology effects from the last two decades shows the prominence of this position in scholarship. A 1985 study by the Steel Panel Committee on Technology and International Economic and Trade Issues considered technology as a component of the competitive status globally of the U.S. steel industry.³ The 1996 yearbook for The National Society for the Study of Education focused one volume’s attention exclusively on the role of technology on

2. Joseph C. Pitt, “What Is Science? What Is Technology?” History of Modern Science and Mathematics Vol 1, Ed. Brian S. Baigrie, (New York: Charles Scribner’s Sons, 2002), 18.

3. Steel Panel Committee on Technology and International Economic and Trade Issues. (1985). The Competitive Status of the U.S. Steel Industry: A Study of the Influences of Technology in Determining International Industrial Competitive Advantage. (Washington, D.C.: National Academy Press).

the future of education.⁴ Finally, a 2006 by Mehdi Khosrow-Pour study focused on telecommunications and networking, offered case studies that looked at technology implementation challenges locally, nationally and globally, as well as various effects and motivations of implementation ranging from industry competition to data safety to usage and policy issues.⁵

This study focuses on technology effects on community newspapers. Newspapers occupy an important position culturally in the United States. The volume of research concerned with newspapers from only the last twenty years reinforces this point. A general title keyword search of the library catalog at the University of Tennessee using the term “newspaper” showed more than 150 works concerned directly with newspapers since 1986. The same search using “journalism” showed more than 400. The same searches conducted in the periodicals database ComAbstracts produced more than 300 for “newspaper” and again more than 400 for “journalism.”

Given the active interest of scholarship in both newspapers and the capacity of technology to affect human experience, this study posits that an understanding of technology’s effect on newspapers is a useful pursuit in building an accurate and current understanding of society’s relationship with print media. Technology related scholarship, taken up in the second chapter of this study, demonstrates this position.

This study focuses on technology within community newspapers. Despite

4. The National Society For The Study Of Education. (1996). Technology And The Future Of Schooling: Ninety-fifth Yearbook of the National Society for the Study of Education, Part II. Ed. Stephen T. Kerr, (Chicago: University of Chicago Press).

5. Mehdi Khosrow-Pour, Cases on Telecommunications and Networking. Cases on Information Technology Series. (Hershey, Pa.: Idea Group Publishing, 2006).

the association between technology and newspapers in general, the community newspaper has largely been overlooked in scholarship. This may be partially based on an assumption that scholarship concerned with daily newspapers is directly applicable to community newspapers, or that information reflecting conditions at daily newspapers also accurately reflects community newspaper conditions. An example of this is found in a 2002 text regarding digital technology in newspapers.⁶ In this text the author attempted to make the case that newspapers must engage digital technology and a new mindset for managing information. The book focused on daily newspaper organizations and almost exclusively on either the gathering of information or the end-zone dissemination of the information.

Interestingly, the author indicated that newspapers of *all sizes* are making changes saying, “In the USA, newspapers of all sizes use intranets to make data available to reporters.”⁷ However, the examples offered included only: *Miami Herald*, *Newark Star-Ledger*, *Washington Post*, *Dayton Daily News*, *Atlanta Journal & Constitution*, and *South Florida Sun-Sentinel* – all large daily newspapers. According to the Newspaper Association of America Web site, the number of daily newspapers in the U.S. in 2005 was 1,452 reaching a circulation of more than 53 million.⁸ This was compared to weekly newspapers, which numbered 6,659 reaching more than 49.5 million.⁹ This comparison underscored the relevance of weekly, or community, newspapers within the scope of potential newspaper effects

6. Stephen Quinn. Knowledge Management in the Digital Newsroom. Boston: Focal Press, 2002.

7. Quinn, 103.

8. Information taken Oct. 21, 2006 from the Newspaper Association of America at <http://www.naa.org/the-source/14.asp#number>.

9. Information taken Oct. 21, 2006 from the Newspaper Association of America at <http://www.naa.org/the-source/16.asp>.

nationally.

Additionally, a 2000 article by Katherine Fulton hinted about a potentially growing prominence of community newspapers within the current environment of technology, saying:

Good reporting is expensive. Good multimedia reporting, distributed in many different ways for many different purposes, will be even more expensive. Only healthy businesses will be able to pay for it. That means two types of winners: small and very focused, or large. Medium-sized players need not apply. Consolidation among general interest local news players is inevitable, and if it happens cross media, strong local media institutions may endure.¹⁰

Given the importance scholarship has placed on the study of the effects of technology in general, the relevance of community newspapers, and local media's potential prominence as technology continues to develop in this field, this study proceeded from the strong belief that an enhanced understanding of the effect of current technology on community newspapers is inherently useful.

Specifically, this investigation was motivated by the need to understand how digitization and networking technology is affecting how a community newspaper is produced. At its core, this study seeks to provide a foundation to focus efforts to understand what digitization and networking technology means to the practice of community newspapers by first making it clear what is happening. By establishing a framework of distinct identification for the phenomenon, more accurately aimed

10. Katherine Fulton, "News isn't always journalism." Columbia Journalism Review, Vol. 39, Issue 2, July/August 2000, 30.

study of it can begin.

In order to facilitate this study it was imperative that a working definition be determined for the primary components of interest: community newspapers, effect, and digitization and networking technology. It is to this endeavor that the remainder of this chapter is devoted.

A Community Newspaper is...

It is a mistake to assume that a clear definition of ‘community newspaper’ is readily available. Indeed the literature indicated some variance, or perhaps evolution, as to just what the term refers. To start, there seemed to be uncertainty in how the term “community journalism” came to be. In the preface of his 2000 text book, a professor from the Chapel Hill campus of the University of North Carolina, Jock Lauterer, indicated that community journalism got its name from Ken Byerly while teaching at Chapel Hill as a professor of journalism between 1957-71.¹¹ However, only a cursory glance at Charles Allen’s text, Country Journalism¹², from decades earlier showed the term “community journalism,” in use as a general field title long before the 1950s. Nevertheless, commonality did also exist and was used to construct a definition.

At least as early as the late 1920s, Allen, then a journalism instructor from Illinois, published a text, Country Journalism, which sought to specifically lay out the process and procedures for community journalism. According to Allen the “country newspaper has come to be an advertising medium of power, and a chronicler of news which is relied upon to cover thoroughly the local field . . . The

11. Jock Lauterer, Community Journalism: The Personal Approach, 2nd Ed. (Ames, Iowa: Iowa State University Press, 2000), *preface* xiii.

12. Charles Laurel Allen, Country Journalism (New York: Thomas Nelson and Sons, 1928).

news in these papers is mostly all local, because that is what interests the readers, and the advertisements tell what local merchants have for sale.”¹³ These same elements anchor a numbered list of characteristics from the 1960s text by Kenneth R. Byerly, the previously mentioned professor from North Carolina.¹⁴ Another text from the 1970s, accomplished similar items in a slightly different way offering a somewhat light-hearted, depiction of community newspapers from the personal perspective saying, “Small-town news and big-town news are identical fare of wrecks and deaths, floods and lawsuits, celebrities and common folk, socializing and congregating. The size of the world is all that differs. The weekly covers a world 3 to 30 miles wide instead of one 25,000 miles around.”¹⁵ Most recently, Lauterer summed up the community newspaper saying, “The paper is loaded with weddings, anniversaries, engagements, police blotter reports, sports statistics, births and obituaries—all with one common denominator: the emphasis of the paper is local first—what late CBS legend Charles Kuralt called ‘relentlessly local.’”¹⁶

Geographical location does not define the community newspaper. They are not limited to rural areas or to suburban or urban areas alone. Instead, only two distinctions appeared prevalent: local emphasis on information, and non-daily publication. A 1967 study of community newspapers in urban areas showed that indeed urban areas could boast many different community newspapers each with a “focus on the immediate environment.”¹⁷ In fact, Janowitz pointed to census data

13. Allen, 5.

14. Kenneth R. Byerly, Community Journalism (New York: Chilton Company – Book Division, 1961), 5.

15. Bruce M. Kennedy, Community Journalism (Ames, Iowa: Iowa State University Press, 1974), 9.

16. Lauterer, *introduction* xix.

17. Morris Janowitz, The Community Press in an Urban Setting: The Social Elements of Urbanism, 2nd Ed. (Chicago: The University of Chicago Press, 1967), *preface* xi.

from 1940 to demonstrate that even at that time nearly 300 community newspapers could be found within the city limits of 10 U.S. metropolitan areas and more than 400 more in surrounding suburban areas.¹⁸ This information was supported by current data from several southeastern press association Web sites, which associated several of their newspapers labeled as “other than daily-published newspapers” with urban locations.¹⁹ A slight distinction between rural and urban community newspapers, at least according to Janowitz, was that urban community newspapers often actively seek national advertising because local merchant advertising revenue was often not sufficient to sustain the economic needs of the urban community newspaper.²⁰

Even within professional associations definitions were not cut and dried but did support our apparent commonality. Beth Grace, executive director for the North Carolina Press Association, wrestled with the question, saying:

NCPA has no official definition of community papers, per se. For our annual contest, we define them as papers that publish less than five days a week and have circulation of up to 10K or so.

But in the bigger scheme of things, confining a community newspaper to a dry definition doesn’t do them justice. Community newspapers are the lifeblood of their community. They are almost always locally operated and locally owned, and dedicate themselves lock, stock and ink barrel to telling their readers in print and, increasingly, online, what’s happening in their

18. Janowitz, 34.

19. Data for this comparison were taken from press association Web sites from Louisiana, <http://www.lapress.com/byparish.asp>, North Carolina, <http://www.ncpress.com/membersbytown.html>, and Tennessee, <http://www.tnpress.com/membership/tndata/memsearchform.asp>.

20. Janowitz, 45-47.

town and county. Only in a community newspaper will you find out whether local water rates are going up, what local store is closing or expanding, how the local high school baseball team is doing, and who's visiting whom from out of town.

The newspaper's staff not only works in that community, it lives there, too. It takes guts and dedication to work for a community paper for lots of reasons, but most particularly because chances are excellent that you will run into the subject of that story or editorial you ran today at the grocery store or church or the movies tonight. And they won't hesitate to comment!

Community newspapers are like people – each has its own unique personality, mission and sense of justice – or humor. They're not interchangeable but they're universal in their mission to tell everything they know about what's important in their community.²¹

Nevertheless a definition was needed here, and from this information, this study could derive, and worked from, the definition of a community newspaper as any print news publication organization, regardless of circulation size or geographic location, which does not publish on consecutive days and has local content as its primary editorial and advertising focus. It was from within this definition the case selection process, discussed in methodological procedures, was built.

Digitization and Networking Technologies are...

Digitization technologies and networking technologies are two separate things. In his 1995 best-seller, Being Digital, Nicholas Negroponte, a professor at the Massachusetts Institute of Technology, defined digitization in terms of the

21. From interview with Beth Grace, executive director, North Carolina Press Association, Feb. 8, 2006.

difference between bits and atoms.²² Atoms, of course, make up solid physical items such as paper and the ink that is often carefully placed on it to give it meaning and value beyond its material value. On the other hand, a bit, according to Negroponte, “has no color, size, or weight, and it can travel at the speed of light. It is the smallest atomic element in the DNA of information. It is a state of being: on or off, true or false, up or down, in or out, black or white. For practical purposes we consider a bit to be 1 or 0.”²³

What this means from a practical perspective is that digitization is an electronic system by which certain devices can capture the image of a physical and/or conceptual item and render it as coded language that can be stored, transferred, retrieved, rendered, duplicated and even altered. Digitization technologies take many forms. Digital cameras, MP3 audio devices, computers, phones, televisions and many other items are all driven by the tasks of retrieving, interpreting and/or rendering bit code into physically recognizable items of meaning.

For purposes of this study digitization technologies were limited to those devices that allow community newspaper employees to capture, control and transport the primary materials used literally as part of the newspaper product. These items include written text and graphics produced for use as components of a newspaper page and the page as well.

Networks, as the term suggests, are connected items which work together in some fashion based upon the existence of their connected condition. For our purposes, the network was viewed in its electronic existence as related to

22. Nicholas Negroponte, Being Digital, (New York: Alfred A. Knopf, 1997), 4.

23. Negroponte, 14.

computers. It is important to acknowledge here that this is not the extent of the network's existence. Networks can exist between both animate and inanimate objects. Ants work in unison to accomplish important survival goals. Athletic teams succeed and fail based upon the strength and application of their players' ability to network and thus pool their abilities. As homeowners can attest, a single mole can create a disturbing network of tunnels, which can, in time, ruin the entire yard. In fact, anything can be networked if it can be connected to anything else for a meaningful result.

With computers, networking is the condition of more than one computer interconnected in order to share data and/or resources. Computer networks can be localized, meaning limited to machines in close proximity, or wide-area, meaning unlimited by physical proximity, or both. In general, the Internet serves as the basis for a wide area network. Because the term has become convoluted in meaning, a clear definition for this study was appropriate. For the Internet the problem is not the lack of a definition. To the contrary, the problem is that this phenomenon eludes clear detection by weaving in and out of verbal associations that serve to so convolute its identity that in many circumstances arguments can be quite logically posited for several different viewpoints at the same time. The core of this problem seems to be that the various verbal associations that are made reside in the rather nebulous region of not really false but not really true either. To illustrate this point and perhaps achieve a simple working definition, this study considers three distinct definitions offered for the term Internet.

Michael and Ronda Hauben offered perhaps the most simple observation in their 1997 work, referring to the Internet, although not directly, as "a global

computer network.”²⁴ Compare this with the 2003 definition presented by Edward Burman:²⁵

‘Internet’ refers to the global information system that (i) is logically linked together by a globally unique address space based on the Internet Protocol (IP) or its subsequent extensions/follow-ons; (ii) is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suite or its subsequent extension/follow-ons, and/or other IP-compatible protocols; and (iii) provides, uses or makes accessible, either publicly or privately, high level services layered on the communications and related infrastructure described herein.

As convoluted as the latter definition is, it really is just another way of saying ‘global computer network.’ IP merely refers to the method by which each accessible entity maintains a unique identity within the globally connected community, or network. TCP/IP is simply a language protocol that facilitates two-way communication between them. The important part of the definition was part three (iii) which indicated that the Internet “provides uses or makes accessible . . . services.” This definition indicated a strong physical attribute that reinforces the notion of a network of objects, in this case, computers. Perhaps a more understandable definition emerged in a 2003 teaching text where the Internet was defined as, “a worldwide collection of networks that link together millions of businesses, government agencies, educational institutions, and individuals. With an

24. Michael Hauben and Rhonda Hauben, Netizens: On the History and Impact of Usenet and the Internet, (Los Alamitos, CA: IEEE Computer Society Press, 1997), 115.

25. Edward Burman, Shift! The Unfolding Internet: Hype, Hope and History, (West Sussex: John Wiley & Sons Ltd, 2003), 26.

abundance of resources and data accessible via the Internet, more than 459 million users around the world are making use of the Internet for a variety of reasons.”²⁶

This definition was fleshed out further by the indication that the Internet has a variety of uses including sending and receiving individual messages as well as accessing data and conducting financial transactions.

What all of these definitions have in common is the notion that the Internet is a physical item, a network with a variety of uses. Of course, when using the Internet, many of the identity borders between the use and the facilitator become convoluted and get lost in processes of usage. For example, the World Wide Web is actually a network of data sources that exists within the Internet (housed inside computers called servers) and use the Internet to transfer data back and forth. However, it is common to hear someone say, “I found the book on the Internet.” This statement would be more accurate as “I found the book on a Web site.” Because the Web is a component of the Internet, it isn’t really false to say it was found on the Internet, just overly generalized. Similar examples exist for references to nearly all components of the Internet, from e-mail to interpersonal real-time communication systems to file transfer systems until the Internet’s identity becomes so mixed with the resources it facilitates that no meaningful distinction seems to exist. So what’s the problem? The problem is that when terms denoting different things become mixed, the definition becomes unclear. In this case, as the literature will soon show, studies purporting to be online or Internet studies actually were limited to or heavily focused only on the Web. Consequently, when considering

26. Gary B. Shelly, Thomas J. Cashman and Misty E. Vermaat, Discovering Computers 2003: Concepts for a Digital World, (Boston: Course Technology, 2002) 1.17.

the Internet, a study must, by definition, move beyond the Web in the study's considerations.

For purposes of this study then, the Internet was defined as the global, or wide-area, network system by which peer-to-peer electronic communication can take place between properly equipped electronic devices. A local area network is largely the same thing but limited to only those devices usually in the same or very close physical location, such as a building or home. Networking technologies were defined as those technologies that exist to facilitate electronic contact by properly equipped electronic devices. At this point, the relationship between digitization and networking technologies began to take shape. As Negroponte put it, "the information superhighway is about the global movement of weightless bits at the speed of light."²⁷ Local networks have the exact same primary task on a smaller scale. For this study, the focus rested squarely on the effect of this relationship on the production of a community newspaper.

An Effect is...

Because multi-faceted meanings and uses of "effect," exist, it was necessary to establish a clear understanding of how this study defined it. The formal first definition of effect derived from the Web at www.dictionary.com was "something that is produced by an agency or cause; result; consequence." Unfortunately, it was also defined, "power to produce results; efficacy; force; validity; influence; or the state of being effective or operative; or operation or execution; accomplishment or fulfillment; a mental or emotional impression produced, as by a painting or a speech; or even meaning or sense; purpose or intention." This range of definition

27. Negroponte, 12.

exposes the inherent challenges of using the term and consequently the need to narrow its definition here. The primary difference between the definitions rests on the difference between a result actual and the result capacity, and is substantial. This point is illustrated by the 1998 text, The Electronic Grapevine: Rumor, Reputation, and Reporting in the New On-Line Environment. This collection of articles by various authors mainly explores the effect of the Web on newsgathering. In doing so it explores effect in both these senses, result and capacity.

In one article, Susanna Hornig Priest explored what is called the impact of on-line journalism in reporting science and technology.²⁸ The focus is entirely on perception and impression created by the use of and presence of what is called on-line media of those who receive and use the information. In this instance, the effect is considered from the result standpoint. How does the presence of the technology and its use alter the process of getting new information about science and technology? It is important to see here that the focus is seemingly physical in its nature. It is a result based upon an applied stimulus.

In another article, L. Carol Christopher purports to focus on the implementation of technology comparing reactions to significant changes in work routines.²⁹ The focus here is different. Christopher discussed the results of using technology on those directly involved with using the technology but focused on *how* that *difference* changes the *perception* of the environment in which it exists.

28. Susanna Hornig Priest, "Public Opinion, Expert Opinion, and the Illusion of Consensus: Gleaning Points of View Electronically," Chapter 2, The Electronic Grapevine: Rumor, Reputation, and Reporting in the New On-Line Environment, Eds. Diane L. Borden and Kerric Harvey, (Mahwah, NJ: Lawrence Erlbaum Associates, 1998), 23-29.

29. L. Carol Christopher, "Technology and Journalism in the Electronic Newsroom," Chapter 9, The Electronic Grapevine: Rumor, Reputation, and Reporting in the New On-Line Environment, Eds. Diane L. Borden and Kerric Harvey, (Mahwah, NJ: Lawrence Erlbaum Associates, 1998), 123-141.

Here it was the ability of the technology not just to change how something is done, but moreover, the capacity of this result to alter the perceptions of those directly involved.

The differences in what effect means between these two articles is analogous to how one might consider the effect of tinted windows on a car. On the one hand there is how it looks as a result of the presence of the tinted windows. The presence of tinted windows produces the result of a visual appearance. It also has an effect based on the impression the new look has on those that come into contact with it externally. One might say the driver tinted the windows for effect. Both perspectives of effect are valid, but they are different and must be seen thus. It is the former concept of effect that this study employs.

The goal of this research then, was to provide a detailed qualitative analysis of the existing practical results, of digitization and networking technology on community newspapers. This study constructs a detailed picture of the production effect the technologies have in terms of physical interaction with newspaper staff in the performance of their routine functions. In this manner this study sought to provide a foundation to accurately understand how digitization and networking technology affects community newspapers by establishing a framework of distinct identification for the phenomenon.

Chapter Summary

Chapter 1 established the focus and goal of the study, to provide a detailed qualitative analysis of the practical effect of digitization and computer networking technology on community newspapers. To guide this process, the study established clear working definitions for the key components; community newspaper, digitization and networking technology and effect. This study defined

a community newspaper as any print news publication organization, regardless of circulation size or geographic location, which does not publish on consecutive days and which has as its primary editorial and advertising focus local content. Digitization and networking technologies were seen to encompass the range of technologies that change information into digital form and to facilitate its transfer in digital form from one point to another. Networks included both local-area, connections between computers inside a closed system and wide-area, connections based upon a connection to the Internet, in turn defined as the global computer-based network system by which peer-to-peer two-way electronic data transfer can take place. Effect here was considered distinctly practical and physical, the results of the technology on the process of producing the newspaper. Chapter 2 reveals the currently limited scope of research related to digitization and computer networking technology and community journalism and establishes the motivation and need for the current study. Chapter 3 establishes the formulation of the study as a distinctly qualitative study seeking to focus on three individual cases to understand accurately and in detail the effect of digitization and networking technology on each community newspaper studied. Chapter 4 provides analysis of the data collected from each case study to establish the actual presence and identity of the digitization and networking technology in the community newspaper, and a detailed understanding of the observable effect of this technology on the processes of producing the newspaper product. Chapter 5 concludes the study with a detailed discussion of conclusions drawn from comparisons between the case study findings to establish a perspective of the relationship between digitization and networking technology and the process of producing a print media information resource.

CHAPTER 2.

SURVEYING THE FIELD

Three areas of research from the last three decades are involved this study. The first area is research related to Internet technology and journalism. The second involves literature dealing with community journalism as a practice. The third focuses on efforts to understand technology effects, generally and within newspapers. It appears that research in the area of community newspapers and their adoption of innovations is thin.

Research Concerned with Community Newspapers and Technology

A smattering of articles focuses on general issues of growth, journalism and economic issues within this market.³⁰ One notable exception was a substantive 2001 study by Douglas Blanks Hindman, Stan Ernst and Mavis Richardson regarding community newspaper editors' uses of what the study called information technologies.³¹ This study included community newspaper use of Internet technology. However, the research was focused more on the editors' uses within social contexts, although it did include considerably more technology use than that associated directly with the Internet. In addition, Internet technology was narrowly

30. Examples include: Hatcher, John, "Passion for the 'Minor Leagues,'" Columbia Journalism Review. 41 (7, May 2003) 66; Mohl, Jeffery D, "Small newsrooms don't equate to small journalism," Quill. 91 (4, May 2003) 3; Bressers, Bonnie, "Pinching pennies: Small papers find creative solutions in a slow economy," Quill. 91 (4, May 2003) 20. Hatcher focuses on the general condition of community newspapers as evidence for an argument concerning what he sees as a lack of passion in community journalism. Mohl focuses this brief discussion on the different roles and thus different practices of community newspapers compared to larger dailies. Finally Bressers offers an economic look at community newspapers in a difficult economy. Little effort is made to focus on technology.

31. Douglas Blanks Hindman, Stan Ernst and Mavis Richardson, "The Rural-Urban Gap in Community Newspaper Editor's Use of Information Technologies," Mass Communication & Society. 4 (2, April 2001) 149-164.

focused on e-mail and the Web.

In a similar vein, a 2004 effort by Pablo J. Boczkowski³² focused on key factors that shape the integration of new interactive and multimedia technology into the online news product. While these case studies looked at the integration and to a smaller degree the effect of new technology, they were centered on an already Web-based product and were primarily aimed at external effect, seeing the relationship of the users and organization in the process of adoption.

One reason for this may be what 2002 research by Shashank Saksena and Ann C. Hollifield³³ found. They focused on innovation-management processes in the newspaper industry in general and determined that industry executives were generally unprepared to deal with new technology in their field. This suggestion seemed to match well with responses from a pilot interview done for this study, which seemed to strongly indicate that for respondents, the Internet and Web were viewed as essentially the same thing and that they were distinct from the data networking which is actually fundamental to even the Web's use of the Internet, itself a wide-area network.

Journalism and Internet Technology

This perspective appeared also to be quite prevalent in the larger amount of research regarding the relationship between newspapers in general³⁴ and the

32. Pablo J. Boczkowski, "The Process of Adopting Multimedia and Interactivity in Three Online Newsrooms," *Journal of Communication*. 54 (2, June, 2004), 197-213.

33. Shashank Saksena and Ann C. Hollifield, "U.S. newspapers and the development of online editions," *International Journal of Media Management*. 4 (2, Summer, 2002) 75-84.

34. It should be noted here that in all instances during this investigation where engaged literature was purported to be focused on newspapers without a "daily" or "community" or otherwise specifying descriptor, the focus of the literature was discovered to be focused on daily newspapers. This should not be seen to infer that this is universally the case in all literature.

Internet. The literature showed a strong focus on this single component of the Internet, the World Wide Web, as it relates to newspapers. In one example of a database search for articles related to the Internet and newspapers, 132 articles were found between 1998 and 2003. Of these articles, only one, a study of information technology in the newsroom by Bruce Garrison,³⁵ had a focus beyond simply the use of the Web by newspapers.

Garrison's primary objective was to determine if the use of what he labeled interactive innovation had met critical mass, a specific condition imperative to the diffusion process as discussed by Everett Rogers.³⁶ According to Rogers, critical mass³⁷ is achieved when a sufficient number of potential adopters of an innovation have adopted the innovation to guarantee the innovations continued adoption within that peer group. Garrison's survey study found that general computer use, as well as use of the Web for research and for distribution of information had reached critical mass in daily newspapers. While Garrison's focus was broader than the Web, it was not broadened substantially in its focus of the Internet. In addition to the Web in general, Garrison only included bulletin board services, such as America On-Line (AOL), and membership-based data service providers such as Lexis-Nexis. Indeed, Garrison's focus moved beyond general use of the computer in newsrooms. However, the Internet was again bound by its association with a single component, the World Wide Web, and individualized components accessed in this same manner with similar purpose. No attention to things such as e-mail or instant messaging

35. Bruce Garrison, "Diffusion of online information technologies in newspaper newsrooms," *Journalism*, 2 (2, August, 2001) 221-239.

36. Everett M. Rogers, *Diffusion of Innovations*, 5th ed. (New York: Free Press, 2003), 344.

37. Rogers, 343.

was apparent in the study. To be fair, Garrison's title, unlike much of the other literature, "Diffusion of online information technologies in newspaper newsrooms," did accurately relate the focus of the study, at least insofar as readers are willing to concede that things such as e-mail, chat and instant messaging are not distinctly information technologies.

Of the literature actually focused on the Web, there are three categories of investigation: development of the Web as a source of revenue; relationships with users; and, development of content and its delivery.

A 2001 investigation by Carolyn A. Lin and Leo W. Jeffres focused on comparing the Web sites of various traditional media in order to compare content characteristics between them.³⁸ Lin and Jeffres produced a content analysis of more than 400 Web sites associated with print, radio or video broadcasting entities. A comparison was made for content in areas of content posted, communication elements and technical aspects of the Web site. Findings indicated that self-promotion and community service were the most common uses among all Web sites with each of the traditional media types tending toward a different content emphasis. Within the targeted groups studied, findings suggested that competition was a content factor. Newspapers, the organization typically with the least direct competition within a given market, were found to have the least use of self-promotion content compared to radio, the organization with the most direct competition within a given market, which showed the most use of self-promotion on their respective Web sites.

38. Carolyn A. Lin and Leo W. Jeffres, "Comparing distinctions and similarities across websites of newspapers, radio stations and television stations," Journalism and Mass Communication Quarterly 78 (3, Autumn, 2001) 555-573.

Another study by Brian Carroll investigated consumer use and spending habits related to media and the Internet.³⁹ Carroll's assertions of a difficult and largely financially unsuccessful effort by media organization to generate revenue sources online was consistent with a pilot interview conducted for this study in which the community newspaper publisher interviewed indicated no clear vision for how a Web site might be made profitable.

Of course, such a finding forming the basis of an overall economic opinion of the use of the Internet for a newspaper organization only fuels the need for a clearer perspective regarding the actual effect of the Internet on community newspapers. Only a more precise understanding of how the technology is affecting the newspapers will serve to enhance the ability to fairly gauge its usefulness to the newspaper industry, both daily and community.

Studies related to user habits and characteristics were by far the largest showing among articles. Several articles were simple response and preference studies such as that of Iris Hsiang Chyi and Dominic L. Lasorsa, which investigated preferences between print and online versions of the same product,⁴⁰ and David Tewksbury's 2003 investigation into usage habits of online news readers.⁴¹

Chyi and Lasora used a telephone survey to focus attention on a single market area and determine the market relationship between newspapers and their online editions. Findings suggested that readers of online editions tended to

39. Brian Carroll, "Newspaper readership v. news emails: Testing the principle of relative constancy," Convergence. 8 (3, Autumn, 2002) 78-96.

40. Iris Hsiang Chyi and Dominic L. Lasorsa, "A explorative study on the market relation between online and print newspapers," Journal of Media Economics. 15 (2, 2002) 91-106.

41. David Tewksbury, "What do Americans really want to know? Tracking the behavior of news readers on the Internet," Journal of Communication. 53 (4, December, 2003) 694-710.

also use the printed version of the newspaper in use. Findings offered support for the possibility that print and online editions may complement each other. Findings further suggested a head-to-head preference for the print product. From these findings it was suggested that newspapers might find it difficult to gain a market foothold charging for content online that merely repeats the print format's information. However, variables of action motivation and value perception appeared to be missing and/or largely ignored setting up potential questions. For example, asking the question of preference between the two media, all other things being equal, is very different from determining whether or not a user might engage one in the absence of the other. Would the resulting inference regarding marketability also be affected? Also, no clear understanding of the level of sophistication or motivation for use of the online product was found to have been investigated leaving some potential concerns about the inference that because use overlaps there is a complementary condition of existence.

Tewksbury, on the other hand, came about it from the other end, seeking to understand user interaction with Web-based news information resources. Again, survey analysis was employed to understand what news content users going on the Web engage. Specifically, Tewksbury sought to discover if Web access to news effected user interaction with stories related to public affairs. Findings suggested that it did although Tewksbury held that online news readers did not select public affairs materials at the rate they did other materials.

In a more holistic endeavor, a 2001 study by Andrew J. Flanagin and Miriam J. Metzger that investigated usage characteristics of Web categories variously

labeled as information retrieval, dissemination, and conversation capabilities.⁴² Another article from 2002 by Seija Ridell investigated the use of the Web for locally contextual purposes.⁴³ Additionally, more focused research was done in areas such as content interactivity,⁴⁴ and users' habits for evaluating online source credibility.⁴⁵ A 2002 work by Sally J. McMillan⁴⁶ which proposed a model for looking at interactivity, rounds out what is seemingly a heavy focus on attempting to understand how users engage the World Wide Web.

As earlier suggested, a third category of research attempted to engage the Web as a tool inside the newspaper. A 1998 article investigated Web page design in three newspapers and concluded that newspapers seemed reluctant to engage use of graphics but included significant interactive and supplemental link elements in disseminating content.⁴⁷ Another study sought to examine the changing role of the journalist and journalistic style in the wake of the Internet.⁴⁸ These findings largely agreed with those of Lin and Jeffres regarding specific patterns in print media Web products. In another article, Garrison investigated the diffusion and nature of on-line research as a method for journalists at daily newspapers in the U.S.⁴⁹

42. Andrew J. Flanagin and Miriam J. Metzger, "Internet use in the contemporary media environment," Human Communication Research. 27 (1, January, 2001) 153-181.

43. Seija Ridell, "The Web as a space for local agency," Communications: The European Journal of Communication Research. 27 (2, 2002) 147-169.

44. Tanjev Shultz, "Mass media and the concept of interactivity: An exploratory study of online forums and reader email," Media, Culture & Society. 22 (2, March, 2000) 205-221.

45. Jennifer D. Greer, "Evaluating the credibility of online information: A test source and advertising influence," Mass Communication and Society. 6 (1, 2003) 11-28.

46. Sally J. McMillan, "A Four-Part Model of Cyber-Interactivity: Some Cyber-Places Are More Interactive Than Others," New Media & Society. 4 (2, June), 271-291.

47. Xigen Li, "Web page design and graphic use of three U.S. newspapers," Journalism and Mass Communication Quarterly. 75 (2, Summer, 1998) 353-365.

48. Piet Porteman, "Multimedia journalism: The journalist and the Internet," Communicatie. 28 (2, June, 1999) 2-19.

49. Bruce Garrison, "Diffusion of a new technology: On-line research in newspaper newsrooms," Convergence. 6 (1, Spring, 2000) 84-105. This article is possibly a precursor to the previously mentioned 2001

Finally, a 2001 article dealt with ethical dilemmas facing journalists related to the Internet.⁵⁰ In this study the authors used a qualitative method to engage a relatively small number of Dutch journalists and journalism students regarding ethical decisions concerned with commercial pressure, hyper-linking, accuracy, sources, privacy, regulation and newsgathering methods. In a series of personal, e-mail, and focus group interviews respondents provided considerable evidence that new ethical problems based on the Internet as a new medium are recognized but little evidence of a distinct mind set regarding the ethical issues facing journalists online.

This third category of research did offer some insight into the effect of a single component of the Internet on newspapers, or perhaps more accurately, the practice of journalism. Still, the fact remains that little research seems to exist concerning the effect of the Internet, accurately defined, much less an overall perspective of digitization and computer networking, on newspapers, especially community newspapers.

Thus it is inaccurate to suggest, as Carroll does, that print media use of the Internet has been difficult or financially unsuccessful.⁵¹ In fact, as stated earlier, current research, or rather the void of it, strongly supports a need for active detailed investigation into the actual usage of these technologies by community newspapers and perhaps even newspapers in general.

diffusion investigation and relates essentially the same findings. Scrutiny of the literature finds Garrison as a prolific writer of the topic of technology in the newsroom dating back to his 1995 book, Computer-Assisted Reporting, (Hillsdale, NJ: Lawrence Erlbaum Associates, 1995), which also engaged online information resource usage by newspapers.

50. Mark Deuze and Daphna Yeshua, "Online journalists face new ethical dilemmas: Lessons from the Netherlands," Journal of Mass Media Ethics. 16 (4, 2001) 273-292.

51. See note 39.

Community Journalism as a Practice

It is not fair to say that no attention has been paid to community news as an industry. However, largely the attention paid to community newspapers/journalism has been of the nature that seems intent on defining and describing the item more than investigating its interaction with society or elements thereof. This can be seen first in the fact that most of the texts found on the subject titled themselves community journalism or a close derivative. As pointed out earlier, at least as early as the late 1920s a journalism instructor from Illinois published a text⁵² that sought to detail specifically the process and procedures for community journalism as a functioning part of and unique contributor to the fabric of its community. The textbook moved from areas of editorial decisions and various types of material to publish, to advertising, to various administrative and production elements offering the reader all the most recent insight on the ‘how to’ and ‘where for’ of each issue. In the end existed a clear understanding of what Allen considered a community newspaper and how one must run it.

Similarly, a 1960s text by another professor from the Chapel Hill campus of the University of North Carolina⁵³ did essentially the same thing going so far as to proclaim the text a course book in the preface. Another text from the 1970s⁵⁴ accomplished, yet again, similar goals in a slightly different way. In this singular instance the author described, largely firsthand, the experiences of the community journalist. In this manner, a somewhat light-hearted depiction of community newspapers from the personal perspective was achieved.

52. Charles Laurel Allen, Country Journalism (New York: Thomas Nelson and Sons, 1928).

53. Kenneth R. Byerly, Community Journalism (New York: Chilton Company – Book Division, 1961).

54. Bruce M. Kennedy, Community Journalism (Ames, Iowa: Iowa State University Press, 1974).

In his latest textbook contribution, current Chapel Hill professor Jock Lauterer attempted to meld the textbook approach with the personal perspective.⁵⁵ Once again a detailed description of the community newspaper trade was depicted, this time attempted in a more personable manner. What did change with Lauterer's text from 2000 was the integration of what he called "Emerging Technology." However, the chapter remained focused largely on simple computer technology and the Web and does not seek to demonstrate actual usage of digitization and computer networking technologies in the production process of the community newspaper. A notable exception is a 1967 work by Janowitz⁵⁶ that sought to explore the social implications of the community press inside an urban setting. Again, it was the interesting comparison of Janowitz concerning urban-based community newspapers with the more traditional rural notion that formed a base for how this study defined a community newspaper.

Technology Effects in General and Within Newspapers

Reaching back to at least the late 1970s, research by Dineh Moghdam sought to explore the rich and extensive effect of the computer in newspaper publishing. Even then, eyes were cast toward an online future.⁵⁷ Efforts there sought to explore, using specific examples, how computers as a technology were affecting every aspect of the newspaper's publishing. Moghdam explored everything from newsroom wire services to satellite transmission of materials in everything from

55. Jock Lauterer, Community Journalism: The Personal Approach, 2nd Ed. (Ames, Iowa: Iowa State University Press, 2000).

56. Morris Janowitz, The Community Press in an Urban Setting: The Social Elements of Urbanism, 2nd Ed. (Chicago: The University of Chicago Press, 1967).

57. Dineh Moghdam, Computers in Newspaper Publishing: User-Oriented Systems, (New York: Marcel Dekker, 1978).

classified ads to advances in the making of plates for the press. Every department of the newspaper was explored. Later research in the early 1980s by Nancy M. Carter and John B Cullen concerned itself in a more precise manner seeking to engage the effect of computer innovation on organizational structure. As such it was found to have a significant effect on the structure and operations of newspaper organizations, altering both positions and the activities of positions.⁵⁸

At this same time more focused study also takes shape regarding technology effects on specific aspects of newspaper production. Using survey and case study, a 1989 thesis⁵⁹ examined the effect of computer technology on Tennessee newspapers and supported findings with case studies of two Tennessee newspapers' production in particular. Findings seemed to imply considerable adoption of computer technology for production use accompanied by considerable frustration for employees in adapting the technology for use. A more recent endeavor, the 2001 work of George Sylvie and Patricia Witherspoon, looked at technology as a component of the larger issue of change in American newspapers.⁶⁰ After providing a detailed look at the process and nature of change as it relates specifically to newspapers the authors provided several case examples from modern newspaper publications. Late chapters then address the debate of change as a component of newspapers concluding that change is an inevitable event and suggesting methods by which newspapers can engage this "processual" condition.

58. Nancy M. Carter and John B. Cullen, The Computerization of Newspaper Organizations: The Impact of Technology on Organizational Structuring, (Lanham, MD: University Press of America, 1983).

59. Terrie Clifford, Production Technology in Transition at Tennessee Newspapers: A Survey and Two Case Studies, (Master's Thesis: University of Tennessee at Knoxville, 1989).

60. George Sylvie and Patricia D. Witherspoon, Time, Change, and the American Newspaper, (Mahwah, NJ:Lawrence Erlbaum Associates, Inc., 2002).

Perhaps the best case for the need for this study can be made from a brief discussion of a particular section of Negroponte's seminal text, Being Digital. In this text, Negroponte, an expert regarding digital technology,⁶¹ offered a detailed explanation of the digitization process as well as the technologies associated with transferring bits from point to point. The text also offered forecasts of the effect of this technology on how humans would interact with information in virtually all aspects from news to entertainment to individual communication. The book provided insight on how these effects might play out in legal and economic arenas as well. Despite these many insights, it is a single section of unsupported supposition that warrants some consideration. At the beginning of a section dedicated to discussing cross-ownership of media, namely newspapers and television, Negroponte began with:

Consider a modern newspaper. The text is prepared on a computer; stories are often shipped in by reporters as e-mail. The pictures are digitized and frequently transmitted by wire as well. And the page layout of a modern newspaper is done with computer-aided design systems, which prepare the data for transfer to film or direct engraving onto plates. This is to say that the entire conception and construction of the newspaper is digital, from beginning to end, until the very last step, when ink is squeezed onto dead trees. This is the step where bits becomes atoms.⁶²

This is a very interesting notion. Were there newspapers in 1995 that

61. At the time he wrote, Being Digital, Nicholas Negroponte had been the director of MIT's Media Lab, a computer science laboratory focused on new media and investigating the human-computer interface which he co-created in 1985, for more than a decade.

62. Negroponte, 56.

functioned in an environment submerged in digitization and networking technology? Negroponete offers no support for these claims, and, as the literature review of this study indicates, no study seems to exist even some 10 years later to support or oppose his claim. And yet, his entire premise that digitization technology will contribute to cross-ownership rests on the supposed ease with which broadcast television could transfer these bits directly to prospective users by simply diverting them from being printed, the final step in their digital journey through the newspaper production process that Negroponete seems to know is there.⁶³ Would his position have been different if he had discovered that only a handful of the largest newspapers actually had that level of technology? The point, of course, is that positions regarding newspaper use of technology should be based on a reasonable understanding of what is really being used and how. If an accurate understanding of how technology might be affecting information dissemination, or the quality of information being disseminated is truly desired, it must necessarily be based on a real understanding of what is actually being done with the technology at the newspaper. This study sought to begin to investigate this foundation question for the community newspaper.

Chapter Summary

Chapter 2 provided a review of relevant literature. Research was organized for discussion into three arenas: current work related to the Internet and journalism, literature dealing with community journalism, and past efforts regarding computer technology's effect in general and/or within newspapers. Literature alleging to investigate the Internet and journalism was found to largely focus on the World Wide Web and its effects on newspapers as a tool for dissemination, information gathering

⁶³ Negroponete, 57-58.

and/or revenue generation. External effects were aimed at how users viewed and used online newspapers. Literature directly related to community newspapers appeared overwhelmingly limited to course texts that sought to make a conceptual and practical description of the practice. Finally, literature related to computer effects was typically from the 1980s and 1990s and aimed at generalized computer use within newspapers or generalized effects over a broad spectrum, which included newspapers.

By considering both the void in research concerning community newspapers and the lack of depth in understanding the relationship between newspapers and digitization and computer networking technology, especially demonstrated in studies related to the Internet, the literature demonstrated a clear need for a detailed and precise investigation into the actual interaction of digitization and networking technology with the process of creating a community newspaper product.

CHAPTER 3.

PLAN OF INQUIRY

The goal of this research was to provide a detailed qualitative analysis of the existing practical effect of digitization and computer networking technology on community newspapers. The study focused on those technologies that physically exist as they apply to the newspaper's entire production environment from data gathering to information dissemination. The study constructed a detailed picture of how these technologies play a role in the practical production process of the community news source. In this manner, this study intended to provide a valuable foundation to investigate how and why these and perhaps other technologies affect community newspapers by establishing a framework of distinct identification for the phenomenon. As a consequence, this chapter focuses on building a clear perspective of the methodology and procedures of the study. A brief discussion of the qualitative paradigm begins this chapter. From this the chapter moves to the unique assembly of methodology for this study. This is followed by a discussion of pilot and model studies. Finally the chapter takes up the general procedures of inquiry.

The Qualitative Paradigm

The fundamental qualitative research assumption is of multiple realities. The idea that individual circumstances will affect experience rendering it individual is at the core of qualitative researchers' efforts to understand phenomena. Of course, as with any assumption, the idea of multiple realities brings with it baggage both advantageous and disadvantageous to research.

Multiple realities can best be described as a two-fold concept. First it refers to the notion that for each individual there is an individual perspective that renders all experiences contextually individual. Coinciding and cooperating with this is the second aspect that for each individual this perspective is undergoing constant change based on encountered experiences described as, “The comprehension of the system of interactions arises, primarily, in the experiencing subject for whom the sequence of inner events unfolds in structural relations.”⁶⁴ For Dilthey the internalizing of the experiences and the application of that internalization on future experiences are critical. Whether or not this process can be categorized and viewed structurally, as Dilthey suggested, it is inescapable that such a process must be highly individualized and subjective in its nature. People internalize their experiences to reestablish their perspective of reality and reapply this understanding to each subsequent experience that in turn gets added to their ever-evolving reality perspective. Put simply, people learn and adapt.

A clearer perspective on the concept of multiple realities, which emphasized its direct role in qualitative research, is found in a qualitative researcher’s definition, “qualitative research is any systematic investigation that attempts to understand the meanings that things have for individuals from their own perspectives.”⁶⁵ The researcher almost immediately goes to the trouble of clarifying the mutable nature of meaning writing:

. . . human behavior is made up of thoughtful, meaningful responses to stimuli in the world. What something means to someone affects how the

64. Wilhelm Dilthey, *Pattern and Meaning in History*. New York: HarperCollins. 2000, 131.

65. Ronald E. Taylor, “Qualitative Research,” Chapter 14 in Singletary, M. *Mass Communication Research: Contemporary Methods and Applications*. Longman. 1994, 266.

person will respond to it. Meaning is not static; rather meaning itself is always in a process of interpretation and refinement. Meaning may change as time passes, when objects appear in different settings, or as individuals themselves change. The world, then, is dynamic and changing, as people constantly interpret, reinterpret, and make meaningful responses to it.⁶⁶

A third perspective adds a final valuable insight into the concept of multiple realities and its value in qualitative research suggesting, “the world as made up of active, interpreting individuals forging purposeful lines of action to accomplish everyday life.”⁶⁷ Taken as a whole then, multiple realities appears the primary assumption of qualitative research. It sets the stage for understanding and investigating human behavior. It rests upon the idea that subjects are individual and that they can be viewed only as such. Naturally the core positioning of this assumption causes it to have fundamental effects on communication research. Qualitative researchers do not concern themselves with attempting to derive all-inclusive answers.

An excellent working definition for qualitative research can be constructed from a combination of the working definition for qualitative research as well as that of grounded theory provided by Juliet Corbin and Anselm Strauss,⁶⁸ who consider qualitative research to be, “any type of research that produces findings not arrived at by statistical procedures or other means of quantification. It can refer to research about persons’ lives, lived experiences, behaviors, emotions, and feelings as well

66. Taylor, 266-67.

67. Margaret Ann Morrison. *Using Qualitative Research in Advertising: Strategies, Techniques, & Applications*. Thousand Oaks, CA: SAGE Publications, Inc. 2002, 18.

68. Juliet Corbin and Anselm Strauss. Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory. 2nd ed. Thousand Oaks, CA: SAGE Publications, Inc. 1998.

as about organizational functioning, social movements, cultural phenomena, and interactions between nations.”⁶⁹ The goal for this research is to achieve a grounded theory, which according to Corbin and Strauss is “derived from data, systematically gathered and analyzed through the research process.”⁷⁰ The goal, still according to Strauss and Corbin, is to allow the theory to be constructed from what is found so that it will more likely resemble the reality from which it emerges. From these components it can be seen that qualitative research is the process of seeking to understand the singular element as it is in its context and thus produce theory that is more likely to be functionally compatible with the element and context it seeks to show. It is this capacity to derive meaning and construct reality and theory from what is actually there that provides valuable potential in understanding the complexities of the relationship between digitization and computer networking technologies and the community newspapers that engage them.

Because of the nature of this investigation, no single methodology served as an adequate tool for examination. Instead, designing a methodology for this endeavor required consideration of the characteristics of various methods as related to the actual practical concerns for gathering relevant data within the qualitative paradigm. In the end, this study most closely resembled a case study, but utilized long interviews as the primary vehicle for data gathering.

Case Study Methodology

According to John W. Creswell, case studies are explorations into an event, activity, process or individual. They are bound by time and activity.⁷¹ This

69. Corbin and Strauss, 10-11.

70. Corbin and Strauss, 12.

71. John W. Creswell, Research Design: Qualitative Quantitative and Mixed Methods Approaches. 2nd Ed. (Thousand Oaks, California: SAGE Publications, 2003), 15.

method enjoys a distinct advantage in situations of inquiry where a “how” or “why” question is being asked about a contemporary set of events over which the investigator has little or no control.⁷² Because case studies investigate a phenomenon within its real-life context, especially when the boundaries between the phenomenon and its context are not clearly evident, the method of inquiry often copes with a technically distinctive situation in which there will be many more variables of interest than data points, and as a result relies on multiple sources of evidence, with data needing to converge in a triangulation fashion, and benefits from the prior development of theoretical propositions to guide data collection and analysis.⁷³ Among the primary sources of evidence are documentation, archival records, interviews, direct observations, participant-observations, and physical artifacts.⁷⁴

For purposes of this study, interviews and direct observation were the primary sources. Direct observation and interviews involved direct interaction with the context of the subject by being present to watch the phenomenon as well as asking direct questions of participants.⁷⁵ According to Robert K. Yin, a general analytic strategy is an important preparation for the case study. Accordingly, Yin suggested two general strategies for analyzing case study evidence: first, relying on theoretical propositions and second, developing a case description.⁷⁶ The former relies on a theoretical underpinning to provide the structure for examination of the

72. Robert K. Yin, “Case Study Research: Design and Methods.” 2nd Ed. Vol. 5 Applied Social Research Methods Series (Thousand Oaks, California: SAGE Publications, 1994), 9.

73. Yin, Case Study Research, 13.

74. Yin, Case Study Research, 80.

75. Yin, Case Study Research, 81-85.

76. Yin, Case Study Research, 103-04.

material while the latter calls for a pre-developed descriptive framework for the study's organization.⁷⁷

Yin recommended pattern-matching as among the most desirable modes of logic for analyzing the data in a case study.⁷⁸ In this mode the analytical approach is to establish a pattern match of data evidence with proposed expectations based on theory or descriptive framework. This notion of preconception of results, of course, offers little value in the grounded theory approach, which calls distinctly for the researcher to allow the evidence to develop itself. As such, in each case study, decision-makers and participants were interviewed and asked to describe and discuss their newspaper's experience regarding the use of technology within the entire production process. In this manner each newspaper was treated first as a separate case and then analyzed and compared with other cases to produce a single detailed snapshot of the actual presence and relationship between digitization and computer networking technologies and the newspaper's creation process.

Findings, discussed at length in chapter 4, suggest a consistent presence of these technologies with a significant effect on the production process. In this manner, the interview was allowed to construct the picture its context willed without direct interference from the researcher in seeking to match pre-designed patterns. Patterns emerging from the individual cases were then compared to direct observation notes made separately from the interviews to establish pattern matches to achieve connections of commonality. From these connections a more valid picture of the individual case came into focus. Patterns emerging from the

77. Yin, *Case Study Research*, 104-05.

78. Yin, *Case Study Research*, 106.

individual cases were then compared to determine possible matches to achieve connections of commonality between the cases.

The Long Interview

The long interview is perhaps the primary tool in qualitative research. Grant McCracken introduces this method as, “one of the most powerful methods in the qualitative armory.”⁷⁹ Certainly this is high praise. Time scarcity and concern for privacy stand as important impediments to the qualitative study of modern life. It is precisely these impediments that make the long interview so valuable as a means of inquiry. This research strategy gives us access to individuals without violating their privacy or testing their patience. It allows a researcher to capture the data needed for penetrating qualitative analysis without participant observation, unobtrusive observation, or prolonged contact. In other words, it allows researchers to achieve crucial qualitative objectives within a manageable methodological context.⁸⁰ Both the strengths and weaknesses of the long interview method as well as the clear declaration of its qualitative relevance are found in this statement. To begin, consider the phrase “penetrating qualitative analysis.” This notion sums up the very heart of qualitative research that must necessarily penetrate into the very existence of its subject and record detailed relationship observations. This process of discovery can easily be seen as a long and potentially arduous process of detailed subject observation.

This leads unavoidably to the factors offered by McCracken: time and

79. Grant McCracken, The Long Interview, Qualitative Research Methods Series No. 13 (Newbury Park, California: SAGE Publications, 1988), 9.

80. McCracken, 11.

privacy. In practice, the long interview is structured to efficiently single out an individual in relationship to an issue or subject and allow the individual to express and demonstrate this relationship in his/her own terms. Although a focused and planned event, it allows for the cultural category exploration and, if done correctly, maintains a discreet distance from the participant and subject so as to negate influence.

Notwithstanding the practical inquiry benefits, the true strength of the long interview and the chief tool of inquiry resides in the cost-benefit analysis of what you get versus what you, as a qualitative researcher, want. At the base of, and indeed the most useful characteristic of, qualitative research is the focus on discovery. For qualitative research the central assumption is the void of knowledge and desire to discover. This matches perfectly with the long interview's primary objective, to allow the subject to speak for itself unhindered by influence outside itself. The efficiency with which this method accomplishes this objective may account for its use by researchers.

Of course, where there are strengths there are usually trade-off weaknesses. Inside the field of inquiry in general the weaknesses include ineffectiveness of repetition. This should not be confused with the general complaint about qualitative research made by quantitative researchers. Because qualitative research does not seek to verify but rather to discover, it is not reasonable to make such a complaint inside the paradigm. Instead, repetition refers to the difficulty in understanding reliably group characteristics. While several participants can be interviewed regarding a similar subject relationship, because they are each individual, their interview process may not be very similar and in some cases can be quite dissimilar.

This, in turn calls into question any associations supposed between participants in their experiences.

A second and equally difficult potential problem rests inside the interpretation of the data. This moves also in the greater arena of difficulties produced by the interviewer. To begin, the interpretation of the data must be carefully scrutinized both during the process and by anyone reading the findings. This is because a primary tool of the interpretation is insight. The problem here is found in the potential for the analyst to be influenced by findings and begin to view others data in light of past findings. While this search for similarities and differences is certainly a valid concern, the analyst must be cautious not to allow influences to begin to create relationships where none exist. In the same manner, readers must also understand and assume a greater responsibility in reading and assimilating the information.

Additionally, there are possible pitfalls in interviewing related to participants. As early as 1966, Eugene J. Webb and Jerry R. Salancik, discussed problems with validity of respondents indicating that information gleaned by interviews should be viewed with a suspicious eye.⁸¹ Among the list of issues researchers must consider when interviewing are selective recall and selective perception. The respondent may be influenced by even subconscious viewpoints to remember only certain facts related to an event based on personal feelings related to the event or conditional expectations of what the respondent thinks they should recall.⁸² Webb and Salancik also questioned the reality of a neutral observer

81. Eugene J. Webb & Jerry R. Salancik, "The Interview or The Only Wheel in Town," Journalism Monographs, (November 1966), 1.

82. Webb, 4.

maintaining that the researcher will be cast in a role regardless of any attempt to avoid it.⁸³ In the end, Webb and Salancik indicated that to increase validity of interview responses researchers should attempt to interview respondents they can reasonably expect are competent to relate accurate facts. Furthermore, they should minimize the amount of time between the phenomena in question and the interview asking for its recall.⁸⁴ Additionally, the interviewer, it was suggested, should take an active part in determining the role in which they will be cast during the research.⁸⁵ Of seeming paramount importance was the idea of corroboration of interview responses with other interview responses as well as with a second source of information.⁸⁶ In this study, multiple subjects were interviewed and as indicated above, data were compared within interviews and against direct observation. In this manner, this study attempted to glean as rich an understanding of the phenomenon as possible.

For This Study...

In determining this methodology and the subsequent procedures to be discussed below, recent literature as well as a pilot study were employed to assess the validity of and likelihood that data could be acquired and analyzed to produce effective informative results within the methodological construct. Of course, the use of qualitative methodology is not remotely new to mass communication study. A 2000 article by Carol Pardun found that between the years of 1978 and 1998 qualitative studies accounted for more than a quarter of published articles

83. Webb, 11.

84. Webb, 5.

85. Webb, 11.

86. Webb, 8.

in the “Journal of Broadcasting & Electronic Media.”⁸⁷ A more direct research model for this study can be found in the recent work by Niina Rintala and Sanna Suolanen.⁸⁸ The study focuses on the effect of digitization in radio and television on job descriptions, and competencies. Additionally, Rintala and Suolanen look at the perception of the resulting quality of working life by employees at the Finnish Broadcasting Company. The study sought to investigate if and how digitization of production technology affected job descriptions, if and how this changes affected competency requirements, and how employees perceived their experiences of these changes in terms of quality of working life. The authors devised a qualitative case study that selected as cases individual radio and television stations currently undergoing a change to digitization. These case studies focused on individuals directly linked by individual profession to the changes. Observation of job performance was combined with expert interviews to serve as background for in-depth interviews of selected individuals. Data was then analyzed focusing on the identification of differing views. Results were then reported based on the criteria identified above as the focus of the study. The successful melding of in-depth interviews as a primary component of case study in this investigation clarified its potential for use in a study focused on technology effects on an existing process. A substantial similarity between this study and that of Rintala and Suolanen is the nature of the data sought. Rintala and Suolanen sought material from within case studies currently engaged in adoption of a technological innovation. This study also

87. Carol J. Pardun, “Theory into Practice: An Analysis of Qualitative Research in the Journal of Broadcasting & Electronic Media,” *Journal of Broadcasting & Electronic Media*, 44 (3, Summer, 2000) 529-534.

88. Niina Rintala and Sanna Suolanen, “The Implications of Digitization for Job Descriptions, Competencies and the Quality of Working Life,” *NORDICOM Review*, 26 (2, November, 2005) 53-67.

sought information regarding technology that is already in place. Encouraged by this finding, a pilot study was conducted to test the potential of the long interviews to acquire findings regarding the presence of and usage of technology on an existing process.

Pilot Study: Testing the Interview

In the pilot study, a long interview was conducted to investigate economic effect of the Internet on a community newspaper. A newspaper was selected based on a declaration of Internet use and willingness to discuss the adoption process. From the pilot interview of the publisher of the newspaper, data showed that the publisher was the primary decision-maker at the company and that he was not regularly directly related to daily production of the product. The participant showed extensive use of the Internet components: Web, e-mail, instant messaging, and data transfer and storage. The participant used these components both privately and professionally as means of communication and information gathering. The participant's attitude toward the Internet was both positive and negative. He showed considerable affinity for all components related to the production of the newspaper and personal task completion but was skeptical regarding use of the new medium as a revenue-generating source. The participant, without directly naming it, considered the Internet to have had a considerable effect as a money and time-saving device in the production process of the newspaper. The participant indicated that the Internet had enhanced research and data gathering for the newspaper, as well as efficiency and effectiveness of production of the print product and dissemination of the information. Only regarding the Web edition of the newspaper did the publisher show any sense of negative feeling. From this interview it was

possible to learn that this newspaper used the Internet as a communication tool (e-mail and messaging), a data-gathering tool (on-line forms, e-mail, messaging and the Web), a production tool (FTP data transferring) and as a vehicle for dissemination of information through its Web edition.

Overall, these items were regarded as affecting the newspaper in a positive way through increased financial and productivity efficiency. It was clear that one significant change based on the Internet had been the elimination of an internal press. It was also possible to triangulate information from the interviews with documentation to verify findings. Although the adoption process stretched more than a decade past, the interview showed clearly that long interviews of personnel directly involved could achieve findings focused on both current effect as well as the adoption process.

Successes in the pilot study suggested strongly that long interviews could serve as the primary data-gathering tool for this study. Additionally, the case study suggested that interview data could be corroborated with direct observation to establish potentially more reliable findings. As a consequence, procedures for the gathering and analysis of data related to this study were developed and implemented based on the model of inquiry suggested by Rintala and Suolanen. As such, primary research questions for this study were:

- 1. What, if any, digitization and computer networking technologies are present at the community newspaper?**
- 2. How do these technologies affect the production of the community newspaper?**

Procedure

This study focused on community newspapers. The general process included: Contacting and interviewing participants; direct observation of the production process; analysis of information received based on research questions; comparison of analyzed information in each research question area between interview and observation data; development of a detailed report concerning how the newspaper was individually effected by digitization and computer networking technology; and finally a detailed analysis of general findings based on cross comparison of individual case findings.

This study's definition of a community newspaper was any print news organization, regardless of circulation size or geographic location, which does not publish on consecutive days and which has a heavy local focus on editorial and advertising content. Of course this definition presented challenges in the case selection process based upon the rather large cross section of possibilities within the definition. As a result, case selection required considerable planning in an effort to establish cases that could encompass as large a perceived area of potential community newspaper conditions as possible. To this end, three case studies were selected with the following criteria in mind:

1. Selected cases do not publish a regular edition on consecutive days within a one-week period.
2. Selected cases do not use state, national or international news wire services to provide general news copy for regular editions.

In addition to the primary criteria, an effort was made in case selection to

fulfill at least one, or a combination of, the following additional criteria:

- An office location representing one of three population conditions such that all population conditions are represented:
 - Urban – Within 10 miles of population center exceeding 1,000,000 persons.
 - Sub-urban – Within 50 miles, but not closer than 15 miles of a population center not in excess of 500,000 persons.
 - Rural – Not within 80 miles of a population center exceeding 100,000 persons.
- Cases were considered in an effort to represent as many as possible of the following three circulation conditions:
 - 10,000 or fewer newspapers published for subscription and rack sales per general published edition.
 - Between 10,000 and 20,000 newspapers published for subscription and rack sales per general published edition.
 - More than 20,000 newspapers published for subscription and rack sales per general published edition.
- Case selection attempted to represent both the following publication schedule conditions:
 - Must publish not more than one regular edition per one-week period.
 - Must publish three regular editions per one-week period.

Cases selected for study met general and specific criteria regarding publication and local news focus as well as population center proximity, publication

schedule and most circulation criteria. No case selected published on consecutive days and no case selected used state, national or international news wire services. Cases also met most of the additional criteria with one case study publishing one issue per week within 10 miles of a major metropolitan area to a circulation exceeding 30,000, a second case study publishing three times per week more than 80 miles from a major metropolitan area to a circulation of between 10,000 and 20,000 and a third case study publishing three times per week approximately 20 miles from a major metropolitan area to a circulation of between 10,000 and 20,000 circulation. Notably, cases selected represented both chain-owned and private-owned newspaper publications.

While cases for this study were selected based upon a desire to tap the breadth of possible community newspaper environments, it is not the intention of the study to manufacture generalized findings. Accordingly, the number of cases selected for this study is not based upon sampling logic. Instead, three cases were selected based upon a replication logic that expects to find similarity in results within cases selected with commonality.⁸⁹ In this case, the primary basis for selection was commonality in basic criteria defining community newspapers in this study. The intent was to examine the cases in anticipation that potential consistency in findings would serve to produce an enhanced picture of the role of digitization and networking technology in community newspapers. Indeed, if respected case study research such as that of White from the 1950s⁹⁰ is taken into account, even a

89. Robert K. Yin, "Applications of Case Study Research." 2nd Ed. Vol. 34 Applied Social Research Methods Series (Thousand Oaks, California: SAGE Publications, 2003), 110.

90. David Manning White, "The 'Gate Keeper': A Case Study In the Selection of News." Journalism Quarterly, 27 (4, Fall, 1950) 382-390.

single case can be expected to yield useful and relevant information. In his study, White examined the practices of a single copy editor over a period of time to gain insight concerning the decision-making process involved in selecting what stories would be used in a particular newspaper. The stated goal of the study was to, “gain some diagnostic notions about the general role of the ‘gate keeper’ in the areas of mass communication.”⁹¹ It is that study’s desire to explore a relatively unexposed area of scholarship that holds commonality with this study.

Selected cases were contacted and supplied with a general topic understanding of the investigation. Case participants were provided and signed a general consent form as specified by regulations in compliance with University of Tennessee research guidelines. All selected cases provided data based on anonymity. All data and information provided by participants that appears in the study was edited only when necessary to preserve cases from possible identification. The specific process for investigation of each case began with contacting the chief official from the newspaper and providing a brief explanation of the nature and goal of the study and obtaining permission to gather data from that case. In each case the stated goal was simplified from interest in “digitization and computer networking technology” to just “technology.” In each case, one or two days were scheduled for interviews of decision makers and employees considered to be in contact with technology daily as well as unsupervised observation of activities during general production of the newspaper product. Observations were always done after all interviews were concluded. At a minimum, the publisher, or managing official, the editor and the information technology specialist, sometimes

91. White, 384.

called, “the computer guy,” were interviewed with advertising, production and graphics professionals also interviewed when possible. Interviews were recorded and observations involved hand-written notes. At the conclusion of each entire case study participants were allowed to ask questions and the newspaper was exited.

McCracken’s four-stage process allowed for the development of a guide to facilitate the interview process:

Stage one: Establish the domain the interview will explore by understanding the current scholarship and relationship of it to the current endeavor.

Stage two: Establish a clear understanding of the personal relationship and experience of the researcher with the topic.

Stage three: Establish the guide to facilitate the objectives by use of:

1. Planned discourse to reassure security of respondent and neutrality of researcher.
2. Plan for use of floating and planned prompts to protect the integrity of respondent data while allowing for deeper exploration of the topic.

Stage four: Allow the data to establish the categories and patterns in analysis.⁹²

In response to this information and with respect to lessons gleaned from pilot interviews the general interview guide was established.

General Interview Guide

Getting set to talk: Interviews will take place in an environment chosen by the respondent. The researcher indicated the recording device and reassures the respondent of condition of anonymity regarding the interview. The primary topic of

92. McCracken, 16.

interest, technology use in the newspaper, is shown if not already known.

Opening: Researcher begins with a request of general information excluding name. The career path and experiences within profession are topics that will allow the respondent to begin the cognitive action of recall.

Floating prompts such as facial expression, gestures and non-specific verbalizations such as “uh-huh” will be employed to achieve or maintain topic focus if possible.

Should the respondent begin to link the topic into response, merely indicating active interest with gestures or perhaps injecting term repetition may allow the respondent to begin focusing recall in the direction of the technology.

The primary planned prompt will be: **So, tell me about the technology you use to do your job here. Or, what technology do you use here?**

Secondary prompts to further focus topic included:

1. Has your job changed over the past ten years?
2. Have you had to learn new things for the job since you began working?
3. Talk about your use of new (or that new) technology on the job.

If respondents show feelings related to the technology adoption or use, floating prompts or planned prompts related to those above will be employed to encourage exploration of the feelings and their relationship to the technology.

All interviews end with an open-ended question: Is there anything else you think I should know about how you use technology to do your job?

Although digitization and computer networking technologies were being pursued as a topic, respondents were encouraged to discuss technology in general

to avoid agenda-motivated inclusion or exclusion of data that might actually be relevant.

As stated above, the reliability of the information was a critical concern for this, and any study. For this reason, a detailed analysis procedure was used with the intention of minimizing potential error in interpreting data for meaning. In general, the procedure involved a layered coding scheme for the data, which allowed for interview data to be scrutinized internally to test for what Webb refers to as “consistency,”⁹³ and externally, against both other interviews and direct observations, to establish, if possible, what Webb calls, “corroboration.”⁹⁴ As a consequence, this process showed patterns via redundancy both internally and externally which, according to Taylor⁹⁵, can provide reasonable support for interpretation. Figure 1: Analysis Procedure Model below offers a graphic presentation of the analysis procedure. The model for this procedure was developed from both McCracken’s five-stage analysis process⁹⁶ as well as the microanalysis approach from Corbin and Strauss.⁹⁷ Corbin and Strauss use a combination of open, axial and structured coding to establish categories from the data that can then be integrated to form a theoretical scheme.⁹⁸ McCracken’s stages work in much the same manner with each stage of analysis building integration from details toward ever more general observations and eventually to a theme.⁹⁹ Within this study, the process began with interview data analyzed within individual interviews for

93. Webb, 6.

94. Webb, 8.

95. Taylor, 276.

96. McCracken, 42.

97. Corbin and Strauss, 57-59.

98. Corbin and Strauss, 143.

99. McCracken, 42-43.

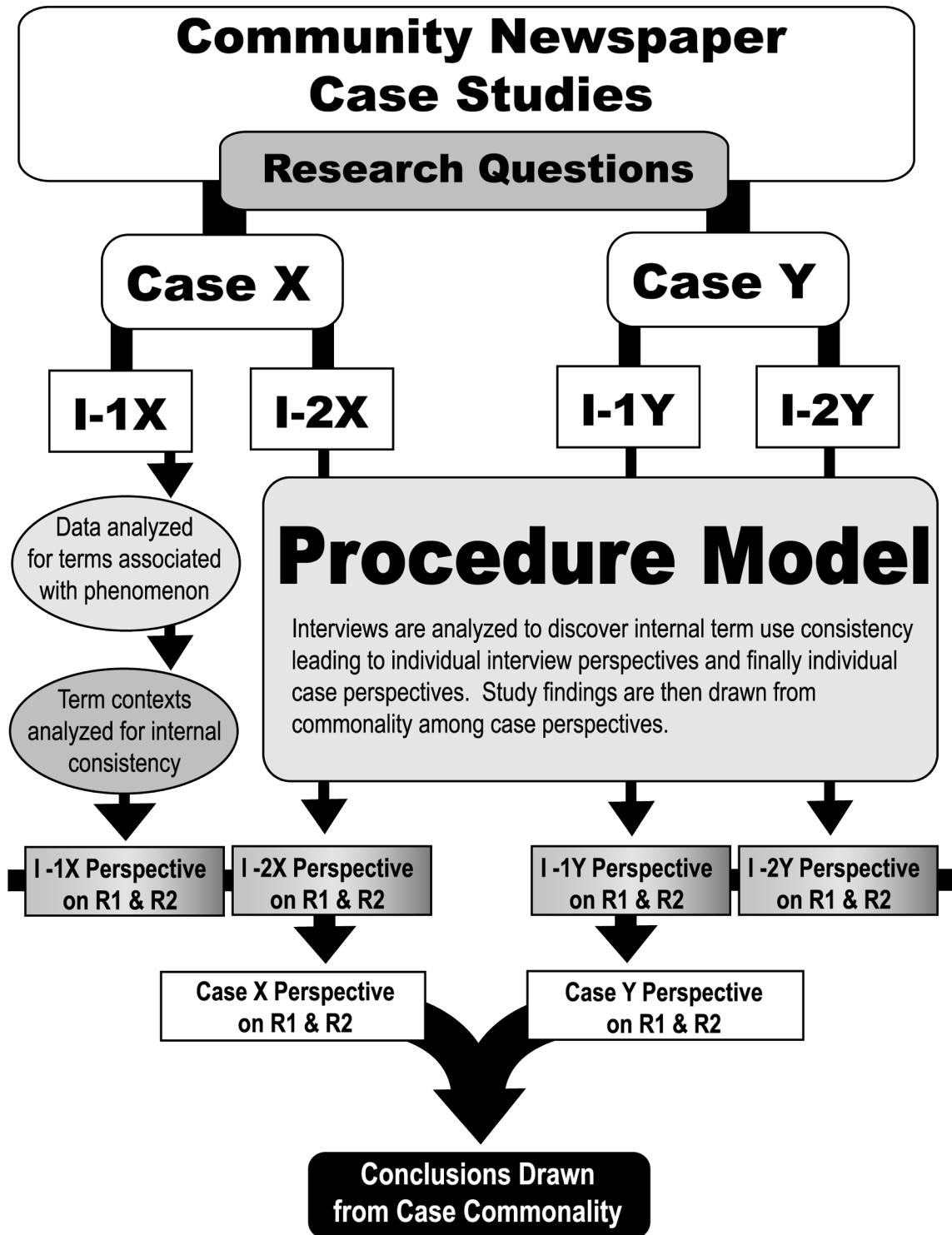


Figure 1: Analysis Procedure Model

terms associated with digitization and/or computer networking technology. These terms were then reviewed inside their context(s) within the interview to determine, if possible, a consistency of the nature of contextual meaning for the term in relation to presence and use of the technologies for production of the newspaper. With consistency established internally, interview texts were compared with other interview texts in the same case study. Patterns, if found, would serve as corroboration on technology presence as well as how it was used by the newspaper studied. Because this study did not seek to establish digitization and computer networking technology as the only or even primary tool in the production process, it was not considered necessary to resolve a hierarchy of usage if non-digitization methods were also found. Instead, this study merely sought to determine if these technologies were present and, if so, how they were being used in the production process of the newspaper. Finally, for each case a general interpretation about the presence and use of digitization and computer networking technology emerged and was compared to direct observations at the case. From this process, general research questions for each case are answered in as reliable a manner as possible. Subsequent chapters provide a detailed report of findings for each case as well as conclusions drawn by comparison of findings between cases as related to each of the primary research questions.

Chapter Summary

Providing a description of the methodology and theoretical underpinnings for this study, Chapter 3 began with a discussion of the general notions of the qualitative paradigm building to the assembly of a qualitative methodology incorporating components of case study fueled primarily by the long interview in

order to gather a rich depth of understanding the effect of digitization and computer networking technology on the production process of the community newspapers selected for investigation. Finally, a discussion of pilot and model studies was made to provide sound footing for the establishment of the general procedures of inquiry. Case selection, investigation activities, the interview guide and data analysis process, were all then described.

CHAPTER 4.

CASE STUDY FINDINGS

This chapter discusses the association of digitization and computer networking technology used to produce three community newspapers. Discussion includes an analysis of recorded interview text and highlighted terms related to digitization and computer networking activities performed at specific newspapers. The investigation then discusses technologies that are present and how they are used within the case. This information is compared to observations of the general production process of each newspaper made separately from the interviewing process. Based upon the corroboration of the interview and observation data, a general process model of the presence and use of digitization and networking technology within the case is presented and discussed. The process repeats for each of the three community newspapers participating in the study.

Case 1

Case 1 is a community newspaper located approximately 25 miles from an urban area. The community newspaper publishes three times weekly and has a circulation of approximately 18,000. During this case five participants were interviewed representing each of the major areas considered linked to the creation of the newspaper. Interviews included the publisher, general manager, editor, advertising graphics editor, and technology specialist. Participants were interviewed in a private setting generally located at or near their work area. In each interview, the researcher provided participants with an informed consent form, which was read and signed before recording began. Participants were all asked to discuss how

their newspaper uses technology in the daily operation. Although prompts were prepared to facilitate discussion if needed, all participants responded readily to the question and appeared comfortable discussing technology issues at their newspaper. Generally, interviews lasted between 35 and 75 minutes for participants in this case study and functioned as casually conversational in nature. In general the interviews established a clear redundancy of terms that seemed to suggest digitization and computer networking technology being used at every stage of the production process for virtually all components of the community newspaper product.

Digital cameras, e-mail and FTP servers appeared to be used to acquire digitized text and images from outside sources into the local network. The local networking system appeared to be at the center of a complex digital processing flow, which eventually led to the final print product. Direct observations generally supported interview claims. As indicated previously, interview participants were each asked to discuss technology use at their newspaper. However, as was hoped, participants universally discussed technology specific to the participant's individual task.

Taken together, interviews in Case 1 established similar patterns of technology usage. Table 1: Case One Interview Association of Terms, provides a demonstration of how terms related to the use of digitization and computer networking technology at the newspaper were repeatedly used by participants. From this table approximately 10 terms relating to digitization and computer networking technology were discovered in at least four of the five interview texts. Comparison of text usage showed consistent meaning for terms between interviews within the case. In general, interview texts indicated that participants were aware of

Table 1: Case One Interview Association of Terms

Association of Term Usage Related to Digitization and Networking Technology				
Interview 1	Interview 2	Interview 3	Interview 4	Interview 5
camera	attachment	bitmap	camera	attached
computer	automate	computer	computer	broadband
digital	bloggers	digitally	digital	browser
DSL	camera	download	download	camera
e-mail	card	DPI	DVD	card
FTP	computer	EPS	electronically	CD
JPEG	download	e-mail	e-mail	computer
Internet	electronically	FTP	format	data
networks	e-mail	graphic	FTP	digital
online	FTP	Internet	gigabytes	chat
photo	graphic	JPEG	graphic	download
photography	Internet	logged	high-speed	DSL
scan	laptop	Mac	Internet	DVD
send(-ing)	logging	megs	laptop	electronic
server	offsite	online	Mac	e-mail
system	online	PDF	megabyte	Fetch
Web	PDA	photo	network	firewall
website	PDF	photography	offsite	FTP
	photo	server	online	HTML
	photography	TIF	paginate	HTTP
	pixel	upload	PC	Internet
	protocol	Web	PDF	mainframe
	server	website	photo	mp3
	website		photography	pixel
			scan	network
			server	PDF
			system	photo
			website	photography
			zip	protocol
				server
				upload
				Web
				webpage
				website

Table 1 demonstrates the association of terms related to the use of digitization and networking technology at a community newspaper. Terms in bold are found in at least four interviews.

and using these technologies.

Conspicuously missing from this and subsequent tables in other cases is the use of terms associated directly with word processing. Because of the association with non-digital production, terms such as “type,” and “typesetting,” were initially overlooked. Indeed, in most instances, direct terms associated with word processing are absent. Instead, observation and context were needed to understand the nature of how writers and editors dealt with the words on the page. An example of this ambiguity is seen in Case 1, Interview 5.

Q. What’s the front side and back side?

A. The front side is the reporters writing it in, typing the stories in. The backside is, once it gets to the prepress area, it’s finally coming out to film, the image setters, which produces the film. Once it’s there, it can’t be changed. It’s printed. It’s done.

Q. And we’re still talking about a file?

A. We’re talking about a file.

In this text it seems ambiguous what is being discussed by “typing the stories in.” However, within the context, typing in stories is explained to create a text file on the computer.

Q. The story is a file?

A. It’s a file.

Q. On the computer?

A. It’s a text file.

Because the process results in a computer file it becomes evident that the file is in digital form. This seems to suggest that in the case of word processing,

general terms associated with non-digital processes have been reapplied to mean digital word processing. Analysis of cases two and three found similar examples. In all three cases this condition of ambiguity was limited to word processing.

On the surface, terms such as camera and photo or photography did not seem as readily applicable to digitization and computer networking technology as terms such as server, Internet or website. However, inspection of term usage within the interview context showed a clear connection.

Case 1, Interview 1: Q. Now when he - does he take the—how does he take the pictures? Does he use a—

A. He's got a digital camera.

Q. A digital camera?

A. Yeah, a very high-powered digital camera.

Q. High powered?

A. Well, it's like the sports, just a plain little point and shoot one isn't going do. You need to have a very sophisticated camera that will stop action for a lot of these sport sections. I mean, you can imagine the—you can imagine the action in that shot. He's throwing the ball with his left hand, but it looks like it's standing still.

Q. Okay.

A. And you need to have a very expensive, high-powered camera to make that work.

Q. So the newspaper bought it, a camera?

A. Right.

Q. And the photographer uses it?

A. Exactly.

Q. But you bought several cameras? Okay?

A. Well, everybody has a camera. The reporters have a digital camera, but they're just a little point and shoot. You're at a banquet and knew people who were elected. You line them up. You could take decent shots, but if you're doing stuff like this, this could be an easy shot to take with a digital, you just - not a very expensive one. To get these kinds of action shots [now referring to a sports picture on screen] putting the tags on someone sliding into base.

Q. So a reporter could do that?

A. Yes.

Q. But the photographer –

A. You would need somebody that has some training to get those kinds of shots.

Within the context of this discussion the participant indicated that the newspaper is using digital cameras for photography. Additionally, the context indicated a distinction in camera quality and personnel associated with different tasks. Reporters were provided with lower-quality digital cameras and expected to take basic photographs as a component of covering an event while photography situations judged to need more powerful equipment were handled by a photographer. The context of another interview discussion that began with digital cameras, showed an association between the digitization technology of the digital camera and the computer networking technology of the Internet.

Case 1, Interview 4: **A. The digital cameras don't have to be**

developed. You take a picture, plug it into your computer, and just drag the photograph right over on to your computer.

Q. So eliminating the scanning?

A. Eliminating the development of the film and the scanning, exactly.

Q. Okay.

A. So you've eliminated two generations right there, right.

Q. Okay.

A. And all the time that it took to do that. Digital photography was a huge boon to the newspapers, but for a newspaper my size, and to spend \$5,000 on two cameras, well, first of all I only had one photographer. So, what happens – why do I buy two cameras? Well, digital photography made it easier for me to give a camera to my sports editor and so now I've got a roving photographer that's taking new story photos, and I can give my digital camera to my sports editor, and he can take pictures too.

Q. So the – so then the sports editor would go to say another town to cover a sports story and take a photograph of that athletic event?

A. Yes.

Q. And be able to e-mail that photograph as though it had already been scanned?

A. Yes.

Q. And it would arrive ready to be used or to process however.

A. Yes.

Q. Okay.

A. Right. And I sometimes there's a little bit of Photoshop that has to be done, we don't ever alter a photograph other than to maybe make it lighter because of the – the exposure of the photograph. You know we don't make it look different, we just, you know, if the photograph was underexposed and so it's kind of dark, we would actually lighten it up so that it looks more like what you were at, at the event.

Q. Who could the editor e-mail that to?

A. We e-mail that to the news department.

Q. Okay.

A. To the editor.

Q. To the editor of the news, okay?

A. Right. And you know now technically the sports editor could probably create his page there. You know he could just lay out his newspaper page if he wanted to in the other town and just e-mail the page to us if he wanted to, or we have a thing called a FTP site which you can ask (another employee) what FTP stands for.

Q. Okay.

A. I don't have to know what it stands for; I just need to know how it works. But you can log onto that and place large graphics on it, and then we go from here and pull them off of it. So you're not having to send it over the phone line.

Q. Okay.

A. Which takes a lot of time and you know sending things over the phone line, there's still electrical currents and digital bit mapping and there's all kinds of little things that can go wrong when you're sending an image over a long span, you know.

Within the context of this discussion the participant indicated the presence of a server and Internet connection by indicating the presence and use of an FTP (File Transfer Protocol) site, which allows for transfer of digital files via the Internet. More interesting, the participant indicated that page layout is also digitized and can be sent to the newspaper using the Internet. This seems to indicate that at least the sports editor has access to mobile equipment capable of performing these tasks outside the physical location of the newspaper. Finally, the participant reveals the presence and use of software designed to manipulate photographs in digital form.

This corresponds directly with information from Interview 2.

Case 1, Interview 2: **A. We're using - yeah, we're using e-mail and into a secure server that we own, we have our own server here with technology. That's another thing; you know we have our own server.**

Q. Uh-huh.

A. So that we can access, for instance our sports guys. They'll drive and they will file a story electronically into our system.

This relationship between digital and networking technology isn't limited in this case to just the editorial side of the newspaper either. Later in Interview 4 the context turned to advertising.

Case 1, Interview 4: **A. You know as the high-speed technology has really improved over the last two years.**

Q. Made it a lot faster?

A. Yes. I can send a – I can send a full page, full color ad to another site in about - if assuming that they have high-speed and we have high-speed we could send that same ad in about probably 30 seconds, where it used to take literally not hours but maybe an hour.

Q. And advertising sends these things back and forth to customers?

A. Yes. Well, now ad agencies for instance, good example. We get national advertisers to send us ads through an ad agency. . .

Q. Which would be electronically sent?

A. Yeah, electronically sent.

Q. To e-mail or FTP or –

A. Depending on the size of the ad, they could do it either way. FTP I know that requires some security issues and we have to give them permission to put things on that site.

Q. Oh, okay.

A. And then we can pull them off of that site. E-mail is unsecured so they can just send whatever they want to us. But if I found a mistake in an ad I can call them and say, there's a mistake in this ad you might want to fix it and they could fix it, e-mail me a new one, it's a done deal. They can send me a digital file now and like I said before if we had the fonts before, we could type it out, and paste it down. They could send me an ad, which includes all the fonts, and all the graphics, and everything with it.

Q. Uh-huh.

A. So if there's a mistake on it I can now go in and fix that ad, because they sent me the fonts with it.

Q. So you don't necessarily have to even send it back to get it corrected?

A. Don't have to send it back to get it corrected, because most of the time they send us the fonts. It depends, if they send an ad that way, sometimes it can get corrupted, so most of the time they'll send what's called a PDF file and I think that's portable document format. Something like that.

Q. Okay.

A. If they send it as a PDF, I can't change it here. That embeds everything in it so that it's exactly like they wanted it.

Q. Okay.

A. If they do that then they have to make change still.

Q. And send it again?

A. And send it again.

This context showed a clear relationship between digital and networking technology and the Advertising Department's receiving and processing of commercial materials. The context indicated that digitization of the files has created a more streamlined method for dealing with minor problems either on site or by receiving a newly correct file in a short period of time. This concept is corroborated in Interview 3.

Case 1, Interview 3: Q. Do they send it to you - okay. You mentioned two different groups, you mentioned the customer, and then you

mentioned the ad agency?

A. Uh-huh.

Q. And they're both sending ads to you and you said the customer will e-mail it to you?

A. Right.

Q. How does the agency send stuff to you?

A. Oh. They will e-mail it to me too. Because right now you know with PDF which is Adobe acrobat.

Another concept that was beginning to develop more clearly was the actual use of e-mail. Within interview contexts so far, e-mail was associated with the transfer of files more than as a communication tool. Of course, this was context-based and could not be taken to indicate that e-mail is not used to communicate. Instead, this context simply makes clear that e-mail is certainly serving purposes beyond its common task designation as a simple message-transferring program

Another term introduced is PDF. Portable Document Format is a file format developed by software company Adobe Systems, Inc. Its primary purpose is to allow for digital transfer of documents as they were designed, which can be received, viewed and, depending of the presence of certain software, even processed or altered for use by the recipient. To this point the digitization and networking technologies have been associated with images and the wide-area network associated with the Internet. During interview 5, the participant discussed the local network and the internal text file processing system associated with it.

Case 1, Interview 5: **A. The system is our internal system. It's a network of forty-three computers. They all talk to each other. I had**

to learn all the different – we have a system. It's a system that takes the stories that are written by the reporters, once they write it in, it's checked out, kind of like at the library. So nobody else can see it. Nobody else can work on it. Nobody else can have access to it while they are working on it. That keeps people from having two stories open at the same time, the same story, making changes on it, not realizing it and then when it gets pulled into the final product, you don't know whose story you got; you don't know if at this point it was changed by this reporter or one changed by the editor. Put a system in place to keep—make me follow the channels that you need to make sure that you have the right story at the end.

Q. The story is a file?

A. It's a file.

Q. On the computer?

A. It's a text file.

Q. Okay.

A. On the front side, it keeps us from taking the stories out of place and one person moving it around and making changes to it and not knowing, which happens quite a bit, when you try to use Word documents, not text, I mean I just type the story up, or e-mail it to each other and try to drop that story into the newspaper. Four different departments have a hold of that story before it gets to the press. So at any point and time, if that—if the channels aren't followed, you could grab the wrong story, you could grab the wrong files, you could, you

know, do whatever, if it wasn't in place the way it is.

Q. What's the front side and back side?

A. The front side is the reporters writing it in, typing the stories in. The backside is, once it gets to the prepress area, it's finally coming out to film, the image setters, which produces the film. Once it's there, it can't be changed. It's printed, it's done.

Q. And we're still talking about a file?

A. We're talking about a file. It's very simple to use, once you get used to it. But it's one of those things that, unless you're using it every day, it's confusing. We have people that have been here three or four years, they're still having trouble with it. That was one of the first systems I had to get used to. And then the filing system with all the pictures, you know, you have a picture with every story. You have a reporter that takes the picture, or, you have a photographer that takes the picture, how do you know what picture goes with what story? So we had to—when I first get here, there was no system for that. Then we threw it onto a computer, say that's the picture, you know, go find it; and then somebody would have to, either the reporter or the editor, would have to go through and look at all the pictures and figure out what story it went with. At first, it was ten pictures per paper. Now, we're probably doing thirty-five to forty pictures per paper, just because the technology has advanced. It's made it a lot easier to add color photos or add photos to paper.

During this discussion the participant indicated the presence of a local

computer network of more than 40 computers. The participant also indicated that the local network is used to manage text and image files in digital form allowing them to be accessed from multiple locations in turn as they are processed from what the participant labeled the front side to what the participant referred to as the back side. These designations were associated with the entire production process from the beginning of the process, creating the text file, to the end of the process, printing the newspaper with the final version of the text and images in place.

Taken as a whole, interviews suggested a clear presence of digitization and computer networking technology being used at every stage of the production process for virtually all components of the community newspaper product. Digital cameras, e-mail and FTP servers appear to be used to acquire digitized text and images from outside sources into the local network. There a complex digital file management system allows a local network of more than 40 computers to be used to digitally process these text and image files, create new ones and lay out the entire collection in an organized manner onto digitized newspaper pages. Once finished, edited, corrected and approved, these pages are finally transported, still in digital form, across the local network to be made into film and eventually plated and printed into the finished physical paper-based product to be sold.

So, how does this perspective stack up against the unsupervised observation of the community newspaper's daily operation? In order to maximize the amount of the process observed, a production day was selected. For the most part, the observations supported the common perceptions found to be redundant within the text of those interviewed. During the morning period of the day reporters and editors were observed transferring files from e-mail either attached as separate files

or written into the actual e-mail message. A single incident of a reporter getting assistance in transferring digital photographs from a camera into the reporter's computer represented observation of the use of the digital cameras. Newsroom personnel were also using written notes to guide their writing into the text program. In one instance, a reporter retrieved a story apparently sent from another place by the same reporter and placed on the network for editing. In this case e-mail appeared to serve as a storage and retrieval system for the reporter's writing. Advertising designers were observed frequently pulling materials from both e-mail and the FTP server for use as a part of something being designed by the ad designer or, more frequently, to simply prepare for use in the current edition. Despite the ability to clearly see the newspaper pages and advertisements on the computer screen, personnel were frequently seen printing these documents to a local printer, often in a scaled-down version. Personnel indicated that the practice allowed for a more accurate visual editing of the work. Also, despite the clear presence of the FTP server and e-mail technology allowing for the sending of pictures and files over the Internet, ad reps were frequently overheard announcing that they were leaving to deliver an ad proof to a client. There were also observed instances of handwritten materials and pictures delivered to the newspaper to be typeset and scanned.

While the observation did support the general notion of digitization and networking usage, it also slightly tempered the condition of its use providing instances where preferences of operation continued to involve physical handling and transfer of materials.

Case 2

Case 2 was a community newspaper located approximately 10 miles from an urban area. The community newspaper publishes once weekly to a circulation of more than 30,000. During this case six participants were interviewed representing major areas considered linked to the creation process of the this newspaper product. Interviews included the publisher, editor, graphics/publishing editor, technology specialist, advertising director and business manager. Participants were interviewed in a private setting generally located at or near their work area. Again, in each interview, the researcher provided participants with an informed consent form, which was read and signed before recording began. Participants were again all asked to discuss how their newspaper uses technology in the daily operation. Interestingly, also again, although prompts were prepared to facilitate discussion if needed, all participants responded readily to the question and appeared comfortable discussing technology issues at their newspaper. Interviews lasted between 15 and 50 minutes for participants in this case study and appeared casually conversational in nature. In general the interviews established an internal redundancy of terms that seemed to suggest digitization and computer networking technology being used in the production process for all components of the community newspaper product. Digital cameras, e-mail, PDF and servers appeared to be used to acquire digitized text and images from outside sources into the local network. The local networking system appeared to be at the center of a digital processing flow, which eventually led to the final print product. Direct observations again supported interview claims. Participants again universally discussed technology specific to

the participant's individual task. Interestingly, interviews again readily established a redundant pattern of technology usage. Table 2: Case Two Interview Association of Terms, provides a demonstration of how terms related to the use of digitization and computer networking technology at the newspaper were repeatedly used by participants. As before, comparison of text usage showed consistent meaning for terms between interviews within the case.

Text from Interview 4 suggested that reporters have and use digital cameras as a component of their daily routine.

Case 2, Interview 4: Q. Do you, yourself, use a digital camera?

A. Yes, I have one, sure do.

Q. You would take photographs with it, as well?

A. Uh-huh. Yep, the man on the street.

Q. Do you guys keep a staff photographer?

A. No, we don't really need one, not for this size operation.

Q. Does the sports editor ever take his shots?

A. He takes his shots. We all have cameras.

Elsewhere in this interview the participant indicated that e-mail is used as a file transfer tool that under some circumstances has made employer-employee direct contact unnecessary.

Case 2, Interview 4: **A. Okay. Saving her column. Two weeks. She is one of our columnists. She sends it over by e-mail. I have not seen her in years.**

Q. Really?

A. No.

Table 2: Case Two Interview Association of Terms

Association of Term Usage Related to Digitization and Networking Technology					
Interview 1	Interview 2	Interview 3	Interview 4	Interview 5	Interview 6
camera	bit	access	access	access	cameras
code	card	bit	attachment	attachments	computers
components	code	browser	camera	automated	connection
computer	computer	camera	computer	cameras	data
connection	connected	CMYK	data	computer	digital
digital	data	compress	digital	connected	download
download	e-mail	computer	downloads	digital	electronic
EPS	graphic	decompress	e-mail	download	e-mail
ethernet	Internet	digital	format	electronic	FTP
e-mail	laptop	dot	graphics	e-mail	Internet
file	network	download	Internet	forwarding	Intranet
format	offsite	electronic	JPEG	graphics	messaging
graphic	send	EPS	online	Internet	network
high-speed	server	export	PC	online	offsite
Internet	system	e-mail	PDF	PC	PC
linked		format	photo	PDF	PDF
Net		graphic	scanner	photo	photo
network		embedded	send	send	protocols
PC		Internet	server	server	servers
PDF		PC	website	system	systems
photo		PDF		Web	Web
scan		photo		website	website
server		RBG			
switch		retrieve			
T1		send			
Web		servers			
		system			
		traffic			
		upload			
		Web			
		website			
		zip			

Table 2 demonstrates the association of terms related to the use of digitization and networking technology at a community newspaper. Terms in bold are found in at least four interviews.

Q. Wow.

A. **She writes a column but, you know –**

Q. So you guys just send her a check?

A. **Yes.**

Another interview indicated similar circumstances in another area of the newspaper.

Case 2, Interview 5: A. **The blue light, it is just an extension for things like a digital camera, which is also another electronic device.**

On occasion we will need to take pictures for advertising, for whatever reason; but, again, it is our own camera.

Q. Okay.

A. **So, and there is just not enough ports to plug it in.**

Q. So that's a port?

A. **Right here.**

Q. Okay. Digital camera?

A. **What about it?**

Q. That's what I want to know.

A. **If I am doing an ad for a car dealer, he may want 30 cars and they don't have a way to get pictures to us, we have gone out and taken pictures before, brought them in, downloaded them, and given them to Graphics with the text so that they can build the ad.**

Q. You download them from the camera?

A. **Ah-huh.**

Q. To the computer?

A. Uh-huh.

Here the participant interview text indicated the use of digital camera to produce material for use in constructing ads for the newspaper clients. It is also interesting to note that the participant made an effort to emphasize that the digital cameras were personal property. The participant later indicated that advertising used personal cameras to avoid scheduling conflicts in use with editorial staff regarding what the participant referred to as the newspaper's cameras.

E-mail was also a topic of discussion.

Case 2, Interview 5: **A. We have actually gotten better. We, I think it was mentioned, we now have the PDFs of ad proofs, where we can send ad proofs to customers electronically.**

Q. Electronically?

A. Through e-mail.

Q. Through e-mail? Okay.

A. I e-mail attachments, pull a PDF in, send it to the customer, and they can pull it up and look at it. Prior to being able to do that, we would have to fax it or they would have to stop by or we would have to take it for approval. It takes up a lot of time, and resources to be able to do that automatically and be doing something else while you are waiting for approval has helped.

Here the interaction between the newspaper and advertising clients can be seen. The interaction regarding materials for publication takes place over the Internet using e-mail to send PDF formatted documents back and forth. For the Billing Department, this technology also comes into play.

Case 2, Interview 2: Q. Okay, you said that you have the Internet and you mentioned e-mailing an occasional statement to a client. Do you do anything else with that?

A. As far as Internet, I use it within the office, and a lot of times I will stay in touch with the customers through e-mail because it is hard to reach people by phone a lot of times, so I will drop an e-mail to customers, you know, if they have any questions about their invoicing, or if they are requesting a statement, or, you know, whatever. I like to communicate through e-mail a lot better than I prefer the phone.

Q. Uh-huh.

A. Just because, I am in and out a lot, just in case they e-mail me, I can do it from home, which is a lot easier than calling here, picking messages up off the phone.

Interview 5 also yielded other interesting uses for the Internet and Web as information gathering sources.

Case 2, Interview 5: Q. All right. Other technology? You mentioned the Web as a remote access. Do you use it for anything else?

A. I think we all do, for a lot of different things. We, on occasion, had pull ads, materials, logos, whatnot, off of the Internet for clients. And some clients have, for instance, a client has set ads already for their representatives to use, and somebody, if they knew that number, 1, 2, 3, 4 off the Web, so we have to go in and access that off the Web. An associate pulls Toyota cars off the Toyota ad by eight. Some customers have separate Web site places to go pull information to build

that.

Q. Sure. That you are providing the material for an ad that you would build here?

A. They are providing them, but we have to go get it.

Q. Yes. And you would get stuff like that maybe off the web?

A. Ah-huh.

Q. So, in addition to getting things off the web for advertisements that are being built per customer instructions, what else?

A. Business related?

Q. Business related or otherwise.

A. Microsoft, research, you are trying to find out something about a company, you can research them on the Internet.

Q. Sure.

A. The company researches somebody, said that they are new to the area, but they have other locations in other areas. So I'd look that up.

Q. Okay.

A. We use reverse phone look up for phone numbers, maybe somebody left a message and we can't quite understand the voice mail, we will use reverse number sometimes.

Q. Okay. MapQuest?¹⁰⁰

A. MapQuest, to get directions. If you need to know how to get

100. The term "MapQuest" refers to <http://www.mapquest.com>. This topic is not introduced overtly in the text of the interview but was brought about as a consequence of the participant opening a Web browser during the conversation and accessing this site.

to you—you don't necessarily want to ask a customer for directions, you don't want to bother them, you thought you kind of had an idea where it was and you can get directions.

The context of this passage indicates use of the Web as a resource for gathering information used to perform daily functions of work. It should be highlighted here that the participant used the Internet and Web interchangeably. While certain elements mentioned are clearly Web-based resources, the first response paragraph mentions pulling materials from the Web based on the knowledge of certain numbers. Observation would later show this to be an FTP server. This confusion may be the reason FTP was not used in discussion. The use of FTP at the newspaper is made clear in another interview.

Case 2, Interview 3: A. If I'm running behind, I'm going to send them as they are getting done. If I am running fine, I'm going to wait until they are all done and then send them. But once they are on my desktop I will copy them to the server, from there I can see follow-ups from that machine and that machine. And I send files from this machine so I can continue to work. I can do it here, but it's easier to have this machine working as I work on this one, because I can work –

Q. So you copy the files to the server so you can open them or access them --

A. I can access them from anywhere.

Q. Okay. So now you have access over there?

A. I have access over there. I'm using program called Fetch

4.03.

Q. Okay.

A. And that's a program that sends files to a server.

The participant indicated clearly in this text that files are transferred to a server using a program called Fetch. Fetch is an FTP client program that allows the computer to use its Internet connection to make specific connections with password protected FTP servers and facilitates the two-way transfer of data between connected machines. Of course this text also showed the presence and use of a local area network to access files from multiple machines. During this same interview the participant makes clear the nature and use of the local network.

Case 2, Interview 3: **A. Like I said, there are many different ways to get something done. I can easily put Fetch over here and do it from my desktop. And then eventually copy the – the server keeps everything we have, and it's got our files. Basically during the week, the current issue has its own folder on the server, and it has the layout in the folder, it has pictures for upstairs, images, and it has PDF contents, and it has editorial stories. So basically everything you need for that week is in there: You got the layout, you got the PDF pages, you got stories, and you got pictures. And then, if you need to go back to a previous issue to get something, you can either get the layout from the Quark file, you can grab the PDF file, you can grab Image, or you can grab one of their stories.**

Q. And that's your job, as well, to keep that organized?

A. Yes.

Q. Okay. But, only the print, only the PDF file?

A. Exactly.

Q. Okay. So the only thing that you are sending on electronically away from here is the PDF file?

A. Right.

Q. Everything else you are doing with servers inside?

A. Yes.

Q. But you are storing digitally everything in a special place?

A. Right, right.

Q. So you can get it later if you need it?

A. Yes.

Q. Okay.

A. Usually it gets burned to a disk and it's in a CD case; I'm in charge of doing that, as well.

Q. Okay.

A. I have to make room on the server so it doesn't get filled up.

Q. Okay. So you don't keep things on the server permanently?

A. I will keep three or four weeks worth of issues, and then I, when I get time, I will burn them, put them on a disk. If somebody needs them, they can come in here, grab this group of disks that is labeled with what issue it is, and they grab it, put it in the machine and get what they want off of it.

In this interview exchange the participant reveals that the local network server serves as a focused access point for all components of the newspaper production. One item that may be hidden in the text is the nature of the PDF-

formatted files that are being transferred using FTP software. These files are the finished pages of the newspaper and they are sent to a server at the contracted printing company for the newspaper where the newspaper will be printed for distribution. Within the local network, the server houses current and recent edition components including graphics, text and digital page layouts that will eventually be combined using various software to construct the finished pages that will then be transferred electronically as just described. Another interview text described the software process.

Case 2, Interview 1: Q. So you have the software for dealing with photographs?

A. Photoshop uses photographs. Illustrator and Free Hand are additional programs that are out there to help you manipulate different graphic things that you might need to work with to develop an ad. Quark, again, is your foundation program, that is what you use to build your layout and create your text boxes and your picture boxes and everything else, that is your foundation that you use to build your newspaper from.

Q. Each page?

A. Each page, correct.

Q. Okay. So you build -- with the Quark program, you would bring all of the things that you made in other programs?

A. Correct.

Q. And put them all on one page?

A. Correct.

Q. And then there would be a collection of pages?

A. There would be a collection of pages.

From this text the participant indicated that the newspaper uses various software packages to digitally construct the components and pages that will eventually be the newspaper product.

This use of software and networking as a production process is corroborated further in Interview 6.

Case 2, Interview 6: **A. So, I'm pretty conservative when it comes to updating. That said, you know, this computer has current, has got the most current operating system on it. A couple others do. But, you know, you want to wait at least week or two until after things are introduced, to make sure that they don't play bad with other software on the computer. So, just kind of keeping track of versioning updates and making sure that when you update one thing it does not make it incompatible with something else. And that's really a big deal here, how all the software works together, you know, from -- from word processing to, to page layout, to PDF file formation, to, you know, to FTP, those kinds of things.**

Q. FTP?

A. That is how they deliver the completed files to the printer.

Q. Ah.

A. So you just transfer those electronic files to them via the Internet.

Taken together, these interviews suggested that information and materials

are collected by employees either in digital form, as with the digital cameras, or e-mail or other Internet-based means, or are converted to digital means, as in creating a text file from notes taken at a significant event. These digitized materials are then processed by using various software packages designed to manipulate and facilitate the transfer of the materials until they are eventually collected and digitally assembled into a collection of digital files representing the pages of the newspaper. These files are then electronically transferred in digital form to a printer where they are processed into images that are placed on pages to become the physical newspaper product. Direct observation of this process supported interview data with very little exception. Noted exceptions included several hand-written classified advertisements that were hand-delivered to be placed in the newspaper. These notes were immediately processed into the classified advertising production software and added to those already processed. There was also a single instance of a photograph dropped off at the newspaper to be used with a story. It was indicated that this process was still common and that letters to the editor were still mailed sometimes and might even be hand-written. While it had been the intention of this study to render a separate process model for each case, the striking similarity of case two with case one made this exercise an unnecessary redundancy.

Case 3

Case 3 was a community newspaper located approximately 85 miles from an urban area. The community newspaper publishes three times weekly to a circulation of approximately 15,000. During this case three participants were interviewed representing major areas considered linked to the creation process of the newspaper product. Interviews included the publisher, editor, and technology

specialist. Participants were again interviewed in a private setting generally located at or near their work area. As before, participants signed an informed consent form before recording began and were each asked to discuss how their newspaper uses technology in the daily operation. Again, participants responded readily to the question and appeared comfortable discussing technology issues at their newspaper. Generally, interviews lasted between 35 and 50 minutes for participants in this case study and appeared casually conversational in nature. In general the interviews established a clear redundancy of terms that seemed to suggest digitization and computer networking technology being used as a significant tool in the production process for the community newspaper product. Comparison of text usage again showed a consistent meaning for terms between interviews within the case.

Digital cameras, e-mail, the Internet, servers and PDF appeared yet again on a list of more than 20 common terms found in the interview texts. As was common in the first two cases, the tools mentioned above again appeared to be used to acquire digitized text and images from outside sources into the local network. The local networking system appeared to be at the center of a digital processing flow, which eventually led to the final print product. Table 3: Case Three Interview Association of Terms demonstrates terms found in common between interviews in Case 3.

Notwithstanding the apparent term similarities from all three cases, two terms common in Case 3 only were “pagination” and “blog.” A blog, short for Web log, is essentially a Web site built and maintained as a sort of running commentary on whatever subject the owner of the site has interest. Despite the blog’s obvious technology link it seemed unlikely that it would be linked to the production of the

Table 3: Case Three Interview Association of Terms

Association of Term Usage Related to Digitization and Networking Technology				
Interview 1	Interview 2		Interview 3	
bit	bit	link	access	modem
blog	blog	local	analog	network
cameras	broad-	megapixels	bandwidth	online
computer	band	network	broad-	PC
connected	camera	online	band	PDF
data	CMYK	paginated	browse	photo
digital	computer	PC	camera	plates
dots	connection	PDF	computer	protocol
electronically	data	photo	connect	satellite
e-mail	dedicated	plates	data	server
Internet	digitally	scan	dialup	sharing
JPEG	download	send	digital	streaming
network	DPI	server	download	transfer
paginate	export	system	e-mail	upload
PC	e-mail	T1	fiber	Web
PDF	GIF	Web	firewall	website
photo	graphics	website	FTP	
plate	hosting	Zip	graphics	
send	hypertext		imports	
server	import		Internet	
system	Internet		IP	
Web	JPEG		LAN	
website	laptop		messaging	

Table 3 demonstrates the association of terms related to the use of digitization and networking technology at the community newspaper. Terms in bold are found in at least two interviews.

newspaper and thus pagination. Analysis showed what appeared to be a significant broad link for the term “blog” to Web usage by the newspaper for dissemination, but a direct link for blog to pagination or to the production of the newspaper did not appear.

Case 3, Interview 1: A. Video-based. We did a commercial for a concert that was held recently, and it was on there. It is a Flash, software called Flash, is based, and we had it set up so if you don’t have Flash on your computer, you can just click on a button and get it, and it will -- it is almost instantaneous now. You can watch any of that stuff. . .

Now I can actually interview you and have it on there in seconds. So, we will have things that are -- for instance, our entertainment editor will be on the Web site telling you what is going to be in the paper this week, in the Entertainment section, and that will be -- and our editor will be on there talking about -- we have added a blog to our Web site.

Q. I don’t understand.

A. And that’s led to some photo galleries of events because we take a lot more photographs than we can print, and so a lot of times, if it is a special event, or, you know – just different things. Sporting events or concerts, where a lot of people, we put up faces and that kind of thing, and people find themselves on the Internet, you know, on our Web site.

While the capacity to conduct video interviews and process the video did show some promise, the blog appeared to be simply aimed at providing another form of content to the newspaper’s Web presence. The second interview participant supported this perspective with a clarification of what the blog for the newspaper is.

Case 3, Interview 2: **And then there is the issue of blogs. We have tentatively started a blog for the newspaper, and I'm supposedly hosting it and I'm still just sort of -- it is sort of hit and miss at this point, but I hope to get a little better at it because it is a habit thing of blogging every day. And it has been really -- it has been really well received with a limited audience, and I hope to kind of publicize that. But what the blog is, is, it is basically just -- it is an adjunct of the Web site, where someone can click on there and hear, you know, some links about -- I may comment about a story.**

The text makes clear that in effect the blog is not servicing the newspaper's production but rather serves merely as a content supplement to the newspaper's Web site.

Pagination, on the other hand, proved to be relevant in discussion regarding production of the newspaper.

Case 3, Interview 2: **A. I don't know all the details about the server, but we use a large client server that connects all of our different workstations as far as pagination for the newspaper. The newspaper we use Quark and we output it to a CPD unit, direct to plate unit, directly. We don't have anything -- I know some newspapers have a whole copy management system; we haven't really found that necessary, we just use regular file management like you would, anybody would on a Macintosh.**

What this response showed was the presence of a local network used to connect internal computers with emphasis on pagination, a process linked to the digital processing of the individual pages of the newspaper. This process is made

even more clear in interview one where the respondent describes exactly what is meant by the term.

Case 3, Interview 1: Q. When you say paginated --

A. Correct.

Q. What is that?

A. We laid out the pages on the computer. We didn't cut and paste. We would take -- we would build the page on the screen, and then would photograph it to negative, and negative to plate, then to the press.

The entire networking system is discussed in detail by participant three.

Case 3, Interview 1: Q. Okay. There are three terms in play, now: Systems design, did you say?

A. Yes.

Q. Work flow, and the other one, system...

A. Maintenance.

Q. Maintenance. Talk to me. What is systems maintenance?

A. Well that is, you know, like running around, de-fragmenting hard drives, checking for viruses and things like that, making sure updates are deployed properly. Basically, just keeping everything up and running. With systems design, mainly I am talking about like work flow. You have the newspaper, you know, reporter goes out, gets their story together, writes it on their computer, sends it to Layout, Layout's getting graphics in from the Graphics Department, and then they send that off to the TTP to get the plates out. So, we have a work flow that we're kind of constantly evaluating how to make better. Part of that is

software, part of it is just actual hardware. Like between, you know, those two, that's kind of what I consider the network system design.

Q. Okay. What technologies are present here, what is being used at this organization?

A. We've got everything from -- we have about 50 machines in the building.

Q. Fifty?

A. Yes.

Q. Okay.

A. Between Macs and PCs. Definitely got more PCs than Macs, so we're fairly -- we're an active directory base. We do have an FTP server in the house, that's a Microsoft FTP server. We have network-attached storage. We have just about everything that you can use. You know, we do a lot of network sharing, things of that nature, and then we have the FTP for people that send us in stuff, so we don't have to use our e-mail servers up.

This text shows a clear picture of the internal processing of digitized materials. Materials come into the newspaper and are processed digitally by different work groups that share the materials over the network to assemble a digital version of the newspaper that is then sent digitally over the network to the press for printing.

Again digital cameras are present and functioning as the primary imaging tool for the newspaper.

Case 3, Interview 2: **A. We use digital SLR photo -- well, a mixture**

of digital SLR cameras, just your regular, off-the-shelf digital camera, ranging anywhere from 3 megapixels to about six, seven or eight, I think, maybe; eight may be the highest.

This is corroborated by interview response from participant three.

Case 3, Interview 3: A. Pretty much with the FTP uploading, you know, they can get files in, they can e-mail snippets if they just have text. They are going to come in and help, pretty much, to produce anything, anyways. They are going to sit down at their computer and put their images from their camera to the machine.

Specifically, this text showed the presence and use of digital imaging technology, as well as FTP technology. “They,” in this instance, referred to reporters.

While the presence and use of digitization and networking technology appeared to be roughly consistent with previous cases, one use item stood out in Case 3 regarding advertising and business section usage of wide-area networking as a chain-owned newspaper.

Case 3, Interview 1: A. Now to me a huge use of technology with us, and it’s company wide, and we have about, I think we have 15 newspapers and four specialty publications. We have a dedicated system, and it is more of a financial system, but it is also our Classified system. So, anything that involves our circulation billing, our circulation statistics, if you will, our advertising sales, our push metal matters, like I said, Classified billing and the production of the Classified pages, all are done on a system, this dedicated system. That system can be viewed

and even controlled from our home office. It's a network in and of itself. And so -- we can have, for instance, if we have too many ads coming, that the staff here can't handle it, we can ask one of the young ladies from another office to, in fact, help us with those ads. . . Everything can be done remotely with that. Actually, someone in Tennessee can help us.

Q. Does everything go through a central server there?

A. Yes.

Q. Okay. So you guys are working from their server when you are in that particular --

A. Right.

Q. -- area?

A. In that area, yes.

Q. Okay.

A. And it goes through one of our servers, so that information is -- we don't lose it if something happens. They are kind of my backup, we go through our server and we get to it. And, the company we bought it from can get to it. They can -- they can actually, on a regular basis, if we have a problem, or, if we just need an enhancement, let's say on a financial statement you need a category added, for instance, we just -- we have a niche publication that we produce, and that wasn't true 18 months ago.

Q. Okay.

A. So now you need a niche publication category added to the profit and loss statement, so that you can keep up with the -- so

they from New York can go on line, go to our system, and add niche publications. From that we have a report that tells us how the niche publication is doing, it wasn't there before.

What participant one is describing is a wide-area central server system that allows the home office, and indeed each individual publication, to be connected and simultaneously sharing data. This instant access means that general business functions that might have required a request for an e-mail with a needed report attached to it just months ago can now be acquired by anyone with necessary clearance to the network. Such access also allows for automated comparison functions between publications and a potentially much more effective ability of the central office to manage company finances.

Case 3 interviews showed a processing system consistent with other cases. Reporters and advertising representatives gathered data from outside digitally or on paper and placed it into the local network. Materials were also obtained via wide-area network through FTP and e-mail from sources other than direct employees. Direct observation in Case 3 also found little difference in the production process between Case 3 and those determined to exist in preceding cases. Figure 2: Digital Production Process, seen below, indicates an accurate working model depicting the use of digitization and computer networking technology in the production process of the newspapers studied.

Overall, the model demonstrates the strong commonality of the case study findings. These findings indicate a clear presence of digitization and computer-networking technologies at the community newspapers studied and suggest that such conditions may be common among such organizations. Additionally, the

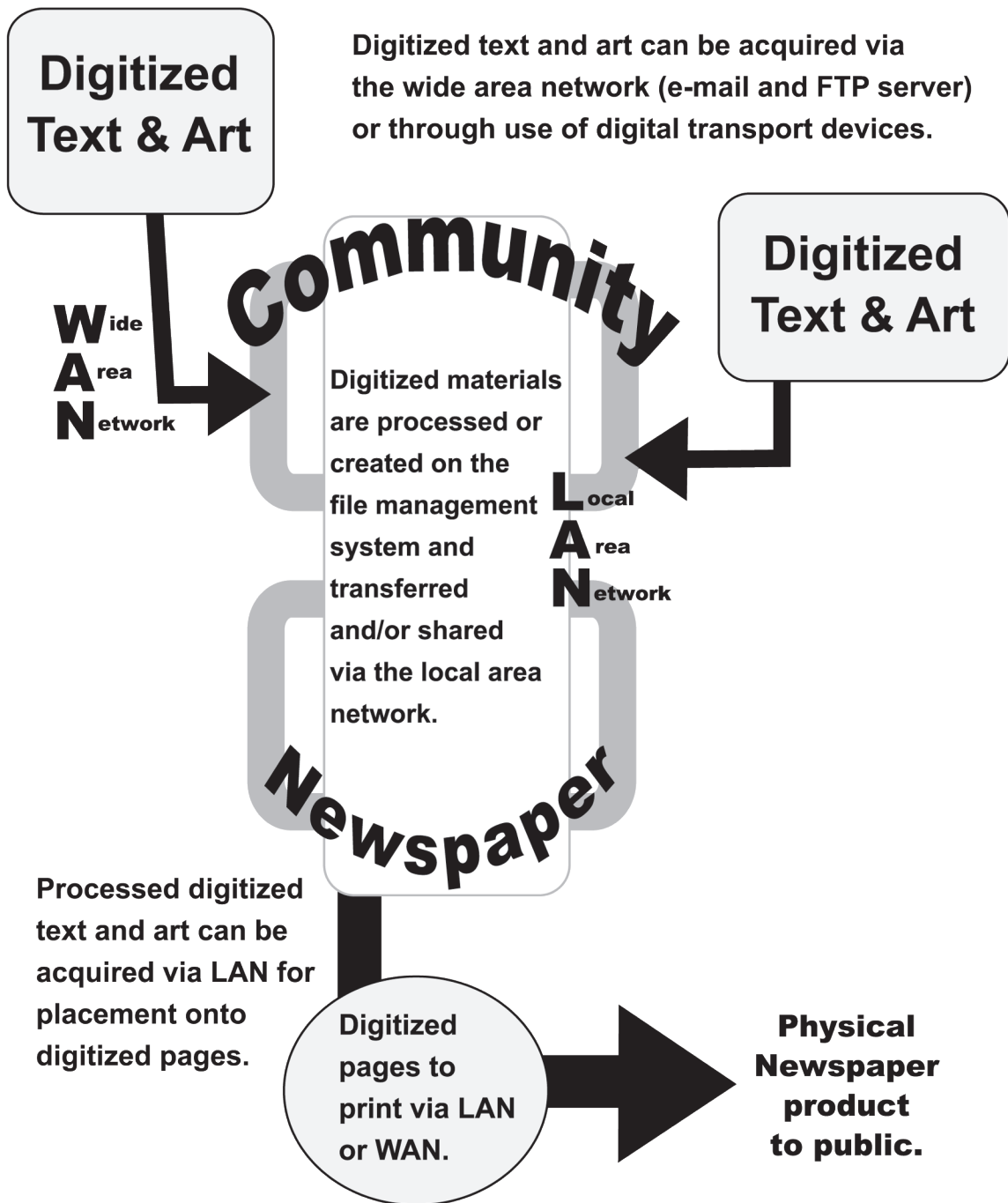


Figure 2: Digital Production Process

commonality of findings regarding the use of these technologies suggests that they affect specific tasks and positions within the process of creating the newspaper.

Chapter Summary

Chapter 4 discussed findings from three case studies focused on community newspaper use of digitization and computer networking technology. The chapter outlined the close association of digitization and computer networking technology, particularly using the Internet, in the general activities participants indicated were commonly performed by newspaper employees producing the community newspaper. Each case study began by performing a general content analysis of recorded interview text from study participants to establish an association of terms related to digitization and computer networking activities participants said were performed at that specific newspaper. The investigation then moved to an analysis of the terms within the interview text to establish a clearer participant perspective of the nature and process of each activity and technology. This information was then compared to observations of the general production process of the newspaper made separately from the interviews. Finally, a general process model of the presence and use of digitization and networking technology within the case was presented and discussed. This process was repeated for each of the remaining case study community newspapers. In general, models seemed to indicate the coordinated use of digitization and networking technology for two-way transfer of data, both internally and externally, as a primary tool in facilitating the production of all aspects of the newspaper product.

CHAPTER 5.

DISCUSSION

Yin suggests that case studies can be used to meet the needs of multiple audiences.¹⁰¹ This chapter discusses the theoretical and practical academic and professional implications of this study. Strong commonality between the cases regarding the presence and use of computer networking and digitization technology does suggest broad theoretical implications. Likewise, findings and suggested implications offer considerable potential to affect practical academic and professional practices within journalism. Discussion includes a review of purpose and detailed examination of what these case studies commonly suggest regarding the presence and use of digitization and computer networking technology at the community newspapers studied. Limitations of the study are also discussed. The chapter concludes with a discussion of the opportunities this study creates for future scholarship dealing with the nature and effect of technology adoption for organizations.

Review of purpose

This investigation was motivated by the need to understand how digitization and networking technology is affecting how a community newspaper is produced. In doing so, this study provides a foundation to focus efforts to understand what digitization and networking technology means to the practice of community newspapers. All this is framed by the study's primary position that establishing a distinct identification of the phenomenon will facilitate a more accurately aimed

101. Yin, Case Study Research, 129-130.

study of it. Primary research questions for this study were:

1. What, if any, digitization and computer networking technologies are present at the community newspaper?

2. How do these technologies affect the production of the community newspaper?

This study employed interviews and observations to establish a detailed perspective of the presence and use of digitization and computer networking technology in the whole process of creating a community newspaper. Internal corroboration between interviews created a common perspective that was compared to direct observation of each newspaper's operation. From this a detailed picture of what digitization and networking technologies exist and how each newspaper uses them to use in operation was obtained. Although commonality was expected in the study, the striking similarity of technology presence and usage between cases was remarkable. Equally remarkable was the unexpected level of technology understanding demonstrated by community newspaper participants.

Common threads in digitization and networking technology

To begin, the study found in each case that community newspaper leaders were more knowledgeable about the presence and use of technology at their newspapers than first expected, suggesting that 2002 findings from Saksena and Hollifield,¹⁰² which posited that industry executives were generally unprepared to deal with new technology in their field, may be changing. A condition of confidence and understanding is suggested from comments made by the publisher from Case 2.

102. Shashank Saksena and Ann C. Hollifield, "U.S. newspapers and the development of online editions," International Journal of Media Management, 4 (2, Summer, 2002) 75-84.

Case 2, Interview 1: A. We have T1 service here in the office. My philosophy is, to try to be one step behind cutting edge. I don't like being the guinea pig for the new technology that comes out. However, I feel that one step below is really fine, works well. Sometimes if you are running the latest and the greatest, they do not have the bugs out of it, and you wind up with the problem and it is hard to fix when your production operation's on a weekly basis.

Distinct term descriptions and the detailed philosophy of technology adoption suggest that this publisher possesses a working knowledge of the technology at the newspaper and has developed a position on adoption based on past experience. Similar comments were found in leadership from Cases 1 and 3.

Case 1, Interview 2: A. Because if they're designing ads and they're buried designing ads, they're not out there looking at what's next for technology. So when I bring them a new Photoshop program, and say here's the newest and latest thing that's going to help you, they don't even question it. They say, "okay," you know its obviously been researched enough. And so I use technology for a variety of reasons, but most -- first and foremost, to educate myself to better be equipped to do what I do, which is running this organization.

Case 3, Interview 1: A. And my first night here I stayed until midnight and went home. They were staying to 2 o'clock in the morning, you know, pasting up, just trimming copy and pasting up the pages.

Q. Uh-huh.

A. And I said then, we are going to have to paginate this paper. And they said, oh, we tried that, you'll never paginate this paper. And I said, watch and learn.

Q. Really?

A. Yeah, and I did pretty soon. But they were using PageMaker until, really, up until not too long ago we were using PageMaker. And we just bought the Adobe Creative Suite and we're -- by Christmas, maybe Thanksgiving, we will have the entire organization on the -- on the Adobe Creative Suite, that way we can use InDesign.

In all three cases, interviews of decision makers suggested a consistent understanding of and confidence in dealing with the use of digitization and networking technology.

This apparent difference in knowledge among community newspaper leaders shown in this study as compared to the pilot interview and what literature suggested is probably based on a combination of several factors. The passage of at least two years between previous work and the current study suggests that leaders have had time to learn more or that perhaps newspaper leadership itself has changed in the interim. Even a combination of these factors is dependent upon other factors contributing motivation. Greater ease of availability and financial feasibility of integration combined with time offer the most likely reasoning in this logic. The fall in costs associated with things like digital cameras along with rising quality capabilities may have spurred leaders to consider things previously not thought useful. Previous statements made clear that the technology has brought change and the above statements suggest that leadership has responded by developing the

necessary skill and knowledge to judge its value. This being said, this study has suggested that scholarship to this point has not demonstrated a thorough working knowledge of the technology in play. This suggests that another contributing factor could be as simple as newspaper leaders were never previously asked the right questions. What is clear now is that leadership appears to be willing and increasingly able to engage the issue of technology integration in the community newspaper.

In all three cases similar terms and processes were noted suggesting the presence of the Internet, local-area computer networks, and digital cameras, as well as the use of FTP servers, internally and externally. E-mail and digitization software were also found in all three cases studied. Specifically, the three community newspapers engaged a process in which both advertising and editorial employees used digital cameras to acquire images for use in the newspaper product. All three cases transferred and received text and graphic materials via the Internet using FTP servers and/or e-mail. All three cases owned, maintained and used a local area network to transfer files within a digital workflow process. All three cases used digitization software to create and alter text and images and assemble them onto a virtual page that was then transferred for use in creating the physical newspaper. Examples of this process observed in all three cases included:

- Reporters and advertising personnel arriving at the newspaper with digital cameras and downloading images directly to computers.
- Reporters, advertising personnel, and editors retrieving pictures and text from e-mail and FTP servers.
- Reporters, Editors and graphics personnel retrieving text and image files

from the local area network and using software products such as Adobe Photoshop, Illustrator, InDesign, Microsoft Word and QuarkXpress as well as company specific software to manipulate and assemble the products onto a virtual page.

- Editors and Graphics and Production personnel sending finished files away via the Internet or local-area-network for proofing or printing the final newspaper product.

Implications of Study Findings

For Everett Rogers, diffusion of innovation was the process by which an innovation is communicated through channels over time within a social system.¹⁰³ Rate of adoption becomes a fundamental concept of consequence to this process and is measured by percentage of innovation saturation within a social system culminating in the critical mass where the innovation's further rate of adoption passes into a condition of being self-sustaining.¹⁰⁴ This study was much more interested in consequences of innovation. Rogers' suggested the consequences of innovation are the changes that occur to an individual or social system (organization) as a result of innovation.¹⁰⁵ Rogers contended that researchers have paid relatively little attention to consequences based on the difficult nature of the data to generalize because it comes largely from case studies and is what Rogers referred to as "soft." Nevertheless, it is in understanding the accurate effect or result of the actual presence and use of digitization and networking technology within the community newspaper that currently seems a productive area for research. In

103. Rogers, 11.

104. Rogers, 343.

105. Rogers, 436.

this manner, the qualitative paradigm was advantageously situated to support efforts in meeting this scholarship need. This study did not seek to infer judgments of value concerning the consequences but to identify the presence and effect of the technologies currently in play. Neither did this study apply Rogers' model. Instead, the study was simply inspired by the notion that adoption of innovation has interesting consequences. This study identified what digital and computer networking technologies are present and investigated the effect they have on the community newspaper production process.

The demonstrated presence and use of these technologies suggests that technology adoption alters organizational structure and task performance processes for personnel incorporated in the adoption at community newspapers. This, in turn, suggests that such a condition may exist among other organizations as well. Ultimately this study suggests that technology adoption generates structural and procedural consequences for organizations.

These implications can be easily drawn from the organizational structure and procedural effects found within the community newspapers studied. Figure 3: Digitization and Computer Networking Technology Effects and Implications, seen below, shows a model depicting the effects and implications of technology use in the production of the newspapers studied.

The Internet, or wide area network, e-mail and Portable Document Format affected how the newspapers communicated internally, with clients, suppliers, sources and materials. The Internet provided more than just a vehicle for e-mail and Web use. It also provided a vehicle for Intra-company networks that created systems for remote access task performance. Speaking about the classified ad

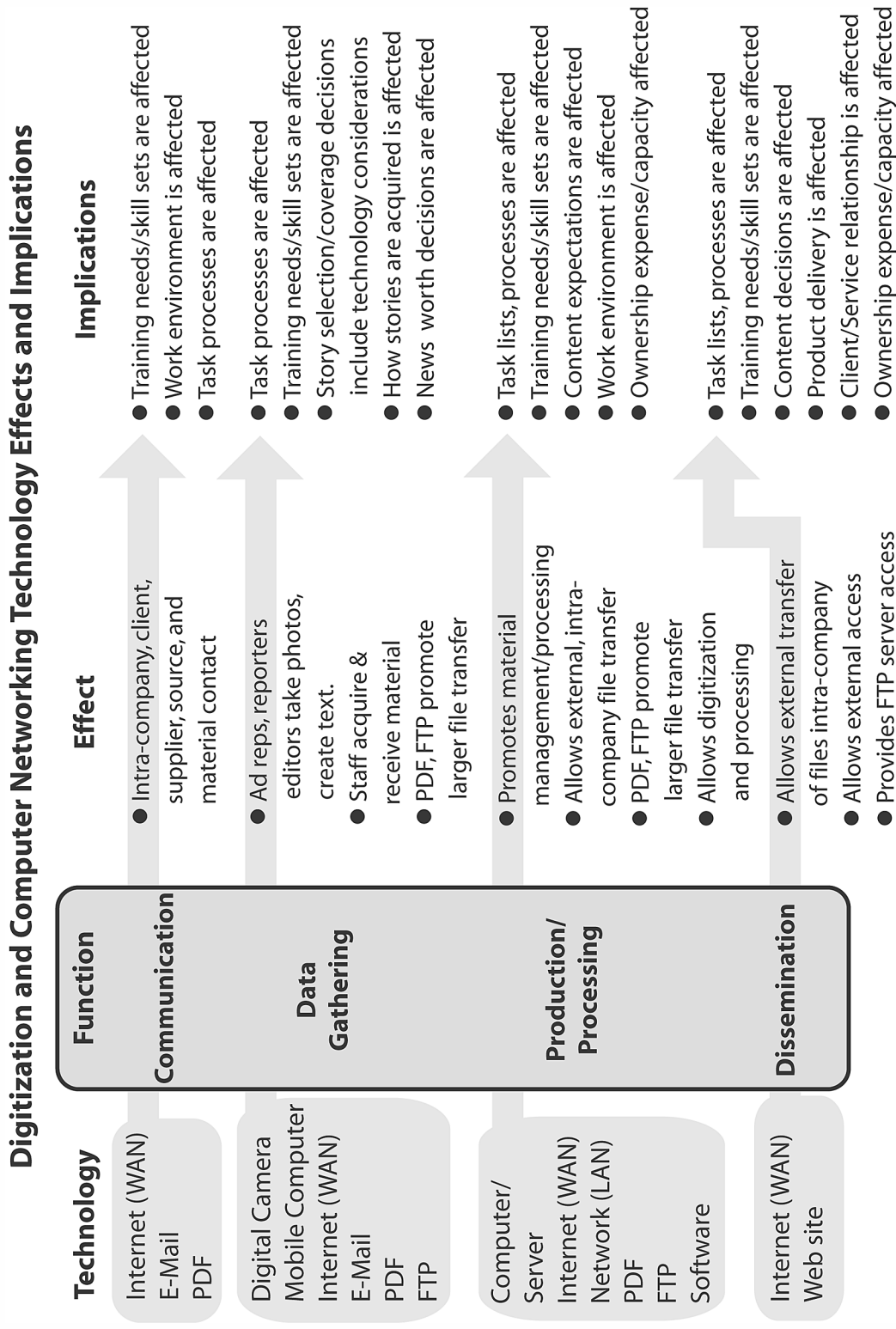


Figure 3: Digitization and Computer Networking Technology Effects and Implications

network for the entire newspaper chain the publisher in Case 3 indicated that contact could be made and material processed without personal contact:

Case 3, Interview 1: **A. It's a network in and of itself. And so — we can have, for instance, if we have too many ads coming into the newspaper, that the staff here can't handle it, we can ask one of the young ladies from another office to, in fact, help us with those ads. She can go on the system, see the ads that need to be placed in categories, and she can take care of that for us from there. Everything can be done remotely with that.**

E-mail provided point-to-point message service that seemed to supplement telephone and traditional mail message service as well as personal contact with clients, suppliers, and sources. However, when combined with Portable Document Format it became a vehicle for material contact. As indicated by the advertising director from Case 2, an ad representative could send and receive advertising requests and provide client's with proof copies of advertisements without every making personal contact:

Case 2, Interview 5: **A. I e-mail attachments, pull a PDF in, send it to the customer, and they can pull it up and look at it. Prior to being able to do that, we would have to fax it or they would have to stop by or we would have to take it for approval.**

These effects suggest changes in training needs and skill sets for employees at the community newspaper. Employees must either be trained or possess an understanding of the use of e-mail and software related to creating and transferring materials in formats such as PDF as well as using remote access to perform tasks

at locations outside the employee's physical space. Implications regarding task processes include changes in how an employee interacts with others. In addition to supplementing telephone contact, personal contact is also becoming less important as employees are able to actually interact with clients about materials without leaving the building or seeing the client. All this suggests changes in the work environment diminishing the role of personal contact. Observations in all three cases noted that newspaper reception areas contained classified advertising and circulation stations, but no dedicated receptionist. Instead, employees working in classified and circulations were sharing receptionist responsibilities. Taken as a whole, technology seems to be affecting communication by diminishing the role of interpersonal contact and heightening the need for technical skills in handling communication needs.

The Internet, e-mail, and PDF, also affected the function of data gathering. Additionally, devices such as digital cameras and mobile computers as well as FTP capability were found to affect how the community newspapers gathered materials for publication. Digital cameras and mobile computers provided newspapers' reporters and advertising sales representatives with tools for taking pictures and creating text digitally in the field. The editor from Case 1 indicated that all reporters carry cameras:

Case 1, Interview 1: **A. Well, everybody has a camera. The reporters have a digital camera, but they're just a little point and shoot. . .**

Q. But all the reporters carry cameras?

A. Right. Uh-huh.

Observations of reporter work spaces showed desks with cable connections for laptop computers to be connected to the network. It is important to make clear that reporters and advertising representatives have always taken photos at the community newspaper. However, task process changes suggest that training needs/skill sets are different. Employees now need to understand how to use the digital devices and how to transfer the material from the device to the network for use in the newspaper. This also implies that employees must be able to determine what makes a good picture so that they can determine if the task has been done. The absence of a dedicated photographer makes this skill even more vital for employees charged with getting art for editorial and advertising use.

This suggests technology influenced changes in how story coverage decisions are made as well. The editor from Case 1 talked about this as well:

Case 1, Interview 1: Q. A digital camera?

A. **Yeah, a very high-powered digital camera.**

Q. High powered?

A. **Well, it's like the sports, just a plain little point and shoot one isn't going do. You need to have a very sophisticated camera that will stop action for a lot of these sports sections. . . You would need somebody that has some training to get those kinds of shots.**

Here the editor indicated that for certain events, different equipment and training are needed.

How materials are acquired is also affected with implications. The editor from Case 1 indicated a strong use of e-mail as a source for material:

Case 1, Interview 1: A. **Typical day, I'm usually here between**

6:30 and 7:30. I read my e-mails first thing, because anymore, that's where the majority of our new submissions come in. We have three writers, three staff writers, and we just can't possibly be everywhere that needs to be covered. But our commitment to the community is, you get it to us, and we will put it in.

From this text the editor makes clear that primary story selection begins with using a networking technology to gather information to determine what stories will appear in the next newspaper. The editor from Case 2 indicated employees also send materials via e-mail:

Case 2, Interview 4: Q. Now, you said -- do you have reporters that send you things over the Internet now?

A. Yes.

Q. Working here?

A. By e-mail.

Q. They do it by e-mail?

A. Uh-huh.

Q. Okay. So, they would write a story and send you the file?

A. Uh-huh.

Q. It would be a Quark file?

A. No, it would be an attachment, and I'll convert it to Quark.

It would be a word processor file.

This method implies more than just a different way to get stories. It implies also a potentially different role for the reader as story producer. Additionally, the policy related by the editor in Case 1 suggest that news worth judgement may not

be entirely the purview of the newspaper any longer. A policy of getting it in the paper if the public sends it to the newspaper suggests that if a story is important enough to a reader to submit, it is important enough to publish.

PDF formatting and FTP capability also played a role in how materials are gathered as suggested by the technology specialist from Case 3:

Case 3, Interview 3: **A. We do have a guy that FTPs the comic strip in, he is a local guy that has a comic strip, and he sends that into us three times a week. And he uses FTP for that. And he has a folder on the site. He just plops it in there.**

Altogether, the technology use in data gathering seem to imply that office hours may be shrinking and that in the future workspaces may be simplified or done away within some community newspapers.

Additionally, equipment such as desktop and laptop computers, digital cameras and cell phones bring with them the challenge of interface. This implies the need for some level of comfort and competency in working with electronic devices. Awareness of this challenge for individual participants was apparent in places such as the advertising graphics editor from Case 1, Interview 3, **“I know what I need to do; I just don’t know how the terms go. You know what I mean?”** In this interview the participant spent considerable time reflecting a sense of not knowing how to explain the tasks for the participant’s position. Frustration was clearly apparent with the further statement, **“It’s hard to explain, I’ve never had to explain it. I’m finding it very difficult to do that, in simple terms.”**

To sum up, changes in access to the newspaper by readers through e-mail suggest changes in news worth judgement further suggesting that technology may

be affecting how local content is generated as well as who is deciding what material is to be published.

Hardware devices such as computers, local area and wide area networks, FTP capability, PDF formatting and specialized software played important roles in the production/processing function of the community newspapers studied. The editor from Case 3 defined the position with respect to technology use:

Case 3, Interview 2: **A. I'm responsible for ensuring the quality of the news product, as well as just sort of function as a general troubleshooter in other areas, especially production. Represent the newspapers in the community, things like that—just the traditional editor functions, including doing some writing, some photography and quite a bit of pagination, using Quark.**

From this text, and common to all interviews, the participant made clear that the definition of his position included consideration of performance of duties affected by the use of digitization and networking technology. For editors, editing stories and making the pages includes placing the text and art onto the page digitally.

Case 2, Interview 4: **A. Yes. It is more flexible. It is certainly a different ball game, where I am not converting this to section tiles, and then having to actually take these big sheets with a razor and carve it up.**

Q. That's the way it used to be?

A. Right.

Q. And now it is just --

A. You print it out, you know, proof it. . . Here is the one I'm working on now. (respondent displays a computer screen with a digital version of the newspaper front visible) **This is last week's.**

Q. Sure.

A. Print it out and proof it, and make corrections, then send it downstairs.

Q. Yes.

A. Production will convert it to a PDF and send it over to our printer.

It is important to note that this text makes clear that for community newspaper editors creating pages is not necessarily a new task. While, findings do not imply that these tasks are new for these positions, they do suggest that technical skills are very necessary for editors as they perform the task of creating a newspaper. It is clearly no longer enough for an editor to have solid writing skills and understand what makes a news story useful. Now editors must also possess the ability to place the material on the page as well and understand what makes a page well designed. This implies that content expectations may be changing. Editor's may become more relaxed with minor content mistakes as their jobs become more complex and their time more spread out among tasks. This may be further complicated by potential work environment changes suggested by the ability to share materials implied by data gathering and communication function effects.

Certainly the technology has led to environment changes. This is seen in the interview with the publisher of Case 3:

Case 3, Interview 1: **A. We just do — we pretty much do all**

digital photography now, we don't —

Q. Digital photography?

A. Yes. Unless somebody brings us film, we don't have a dark room, we don't process film any more.

Q. But, did you at one point?

A. Oh, yes, when I first came here, we processed film.

Things such as paste-up rooms and photography darkrooms are no longer a part of the workspace. As more and more equipment and workspace is made unnecessary, it may become possible to streamline production in other ways, including centralizing multiple community newspapers production into one facility. This, in turn, could trim start-up costs and/or further encourage chain purchase of newspapers regionally.

These implications are further supported by those from the effects of the technology use in dissemination functions. Certainly a newspaper Web site is a part of this function. This does carry obvious implications for product delivery, such as a newspaper Web product. However, understanding the situation more fully shows some perhaps less obvious implication for dissemination.

The technology specialist from Case 3 points out a different use of the Web site:

Case 3, Interview 3: Q. With regard to the -- you said something about, you have an FTP server --

A. Yes.

Q. -- for people who send you stuff?

A. Yeah.

Q. How does that work?

A. Well, we have two ways of doing it: You can either log in standard FTP,, with -- and use your nam and password; or, we have a website on that machine that's basically just an upload, you know, click browse folder -- file to us.

So we've got the easy way of doing it and then the more advanced way of doing it. But we can also serve out -- for instance, we have several satellite offices, and when they need an ad, they can just go to our FTP and download it, which is really handy, you know, for the satellite offices.

The effect here is external access ability not just for HTML-based Web pages, but also for FTP-based file transfer. This suggests that materials can be made available for use by other organizations and that files outside the newspaper can be submitted.

Taken as a whole, the effects of these technologies suggest significant implications on increased community newspaper profitability. This is definitely a consideration for the newspapers.

Case 1, Interview 2: Q. It sounds like you have a specific motivation for this technology?

A. Yeah. Money and profits. I mean you have to, I mean that's where it's at. The - if you don't - I don't care what business you're in, any business.

Q. Right.

A. Well, in a business sense, in a business world, if you don't

take advantage of technology to end up helping your bottom line, then you shouldn't be in business.

This easy access file sharing suggests substantial possibilities including support for the implication of streamlined production facilities. Product delivery is also affected as a newspaper can submit files to printers for printing without regard to physical proximity. Content decisions can be affected by streamlined production facilities which could share materials across regions expanding the local content reach without staff or monetary investment. This greater efficiency in contact with customers may also play a role in how newspapers make things like advertising and subscription sales. With personal contact now feasibly limited to e-mail it may be possible in the future to automate even sales electronically with virtually all aspects of the process handled without human contact. This could reduce an advertising sales staff to a single administrator managing the process for perhaps even multiple newspapers.

Overall, the effects of digitization and computer networking technology use seem to focus on consequences to the organizational structure and task procedures of affected participants. For community newspapers these effects and their consequential implications can be seen in all functions of the organization. These implications reach still more broadly into the future development of the community newspaper in both how it may interact with society as well as what role it will play in society. It is difficult to single out implications into individual categories. The above statements of efficiency and streamlining production facilities also implies that using paper is becoming a choice. Besides a Web site, these technologies suggest any number of methods for delivery of the material digitally to the reader.

FTP servers and PDF format mean that computer users could easily be e-mailed the newspaper or be provided with a digital newsrack where they log on and download and/or view the PDF version of the newspaper. With the Web and the many alternative interaction tools, along with the apparently expanding reader influence on content, a paperless newspaper may take many forms. The emerging possibilities are found on the mind of at least on newspaper leader.

Case 3, Interview 1: **A. The big thing is, in newspapers, how do you get young people to read your newspaper? Well, my belief is, you don't. You get them to read the Web side. You get them to interact with that Web site, you get them to blog, you get them to do other things that are more in line with the way they think, you know. If you don't keep up with the technology you are going to lose them, period. They will not read your newspaper.**

This statement acknowledges much more than just that paper may be on the way out for newspapers. It suggests that the very nature of what the community newspaper does for its readers may also be changing because of technology. The suggestion in the text that a new goal be interaction means that newspapers may be shifting from sources of information to resources for community interaction. Any or all of these implications may justify further study and yield useful insight in the effects of technology on community newspapers.

Limitations of this study

This study does not seek to provide generalized findings. Suggested implications therefore are limited in their value as guides to the general condition of the industry. Further study might seek to apply this information to the industry as a

whole.

It could also be argued that the scope of this study is somewhat limited in both interview and observation. While interviews established clear repetition and subjects were selected based on association with the process of making a newspaper, gaps in this process were present. Notably, no classified advertising or press personnel were included. These omissions were based on the supposition that classified advertising would not differ markedly from advertising and that press personnel by definition would be concerned with the physical print product and therefore fall outside the scope of digitization and networking technology. Observations were also limited to a single day of operation and were focused primarily on verification. This study does not consider these limitations critical because: 1) strong internal corroboration among interviews ended technology discussion at the prepress stage; 2) observations of classified activity did not show any tasks which were not comparable to advertising and editorial personnel; and 3) observations were very consistent with interview information regarding technology presence and usage. Nevertheless, future studies seeking to duplicate this study directly or indirectly might consider a larger interview pool and extended observation period.

Opportunities for Future Research

As expected, this study opens the door for a variety of important investigations regarding the effect of technology on journalism. By establishing a clear perspective on how the technology is functioning in the environment, future studies can begin to examine effects in both a more focused manner and in general. Future studies might include:

- A study seeking to examine the general condition of community newspapers regarding the presence of these technologies.
- A replication study applied to daily newspapers to establish a clear focus on the presence and use of digitization and computer networking technologies in daily newspapers.
- A study seeking to investigate the economic impact of these technologies on newspapers that have adopted them.
- A study seeking to examine changes in printing and distribution practices for community newspapers.
- A study seeking to examine changes in task assignment for editors, reporters and advertising representatives.
- A study seeking to examine changes in editors' coverage expectations and how editors judge newsworthiness.
- A study seeking to examine changes in coverage both in story selection and coverage practices.
- A study seeking to examine the nature and practice of community participation in community journalism.
- A study seeking to examine coverage expectations by readers of community newspapers.
- A study seeking to examine skill and concept expectations of supervisors for community newspaper employees.
- A study seeking to examine compatibility of journalism and advertising education with skill and concept expectation of company owners.

In the end, this study provides a clear and detailed perspective of the nature and use of digitization and computer networking technology in community newspapers. Because of this, future studies can now begin to examine the effects of these technologies on how news is gathered and processed by organizations seeking to provide local content. On that foundation, a more accurate examination can be focused on the effects on professionals practicing and users engaging print media. It is ultimately the position of this study that such information will prove useful to professionals and scholars alike as technology continues to evolve and more and more accurately focused attention to its effects is needed.

Chapter Summary

Chapter 5 begins with a review of the study's objectives. Following the review, the chapter takes a detailed look at the commonality between the cases regarding the presence and use of the digitization and computer networking technology in the community newspapers. The chapter then examines the implications of these findings. Limitations to the study are then discussed and finally the chapter ends with a brief discussion concerning opportunities for future research. In general the chapter showed that findings between the cases was remarkably consistent suggesting the presence of, and use of digitization and computer networking technology in community newspapers.

Implications were varied but center generally around the overall notion that the presence of digitization and computer networking technology has an effect on how news and information are viewed as well as gathered and processed by the community newspaper.

Limitations of the study centered on observation and interview issues and the fact that the study does not seek to provide generalized results.

BIBLIOGRAPHY

- Allen, Charles Laurel. Country Journalism. New York: Thomas Nelson and Sons, 1928.
- Bressers, Bonnie. "Pinching pennies: Small papers find creative solutions in a slow economy," Quill. 91, no. 4 (May 2003): 20-23.
- Boczkowski, Pablo J. "The Process of Adopting Multimedia and Interactivity in Three Online Newsrooms," Journal of Communication. 54, no. 2 (June, 2004): 197-213.
- Burman, Edward. Shift! The Unfolding Internet: Hype, Hope and History. West Sussex: John Wiley & Sons Ltd, 2003.
- Byerly, Kenneth R. Community Journalism. New York: Chilton Company – Book Division, 1961.
- Carroll, Brian. "Newspaper readership v. news emails: Testing the principle of relative constancy," Convergence. 8, no. 3 (Autumn, 2002): 78-96.
- Carter, Nancy M. and John B. Cullen. The Computerization of Newspaper Organizations: The Impact of Technology on Organizational Structuring. Lanham, MD: University Press of America, 1983.
- Cashman, Thomas J., Gary B. Shelly and Misty E. Vermaat. Discovering Computers 2003: Concepts for a Digital World. Boston: Course Technology, 2002.
- Christopher, L. Carol. "Technology and Journalism in the Electronic Newsroom," Chapter 9, The Electronic Grapevine: Rumor, Reputation, and Reporting in the New On-Line Environment, Eds. Diane L. Borden and Kerric Harvey. Mahwah, NJ: Lawrence Erlbaum Associates, 1998.
- Chyi, Iris Hsiang and Dominic L. Lasorsa. "A explorative study on the market relation between online and print newspapers," Journal of Media Economics.

15, no. 2 (2002): 91-106.

Clifford, Terrie. "Production Technology in Transition at Tennessee Newspapers: A Survey and Two Case Studies," Master's Thesis: University of Tennessee at Knoxville, 1989.

Corbin, Juliet and Anselm Strauss. Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory. 2nd ed. Thousand Oaks, CA: SAGE Publications, Inc. 1998.

Creswell, John W. Research Design: Qualitative Quantitative and Mixed Methods Approaches. 2nd ed. Thousand Oaks, CA: SAGE Publications, Inc. 2003.

Dilthey, Wilhelm. Pattern and Meaning in History. New York: HarperCollins. 2000.

Deuze, Mark and Daphna Yeshua. "Online journalists face new ethical dilemmas: Lessons from the Netherlands," Journal of Mass Media Ethics. 16, no. 4 (2001): 273-292.

Flanagin, Andrew J. and Miriam J. Metzger. "Internet use in the contemporary media environment," Human Communication Research. 27, no. 1 (January, 2001): 153-181.

Fulton, Katherine. "News isn't always journalism." Columbia Journalism Review, 39, no. 2 (July/August 2000): 30.

Garrison, Bruce. Computer-assisted reporting. Hillsdale, N.J.: L.Erlbaum Associates, 1995.

Garrison, Bruce. "Diffusion of a new technology: On-line research in newspaper newsrooms," Convergence. 6, no. 1 (Spring, 2000): 84-105.

Garrison, Bruce. "Diffusion of online information technologies in newspaper newsrooms," Journalism. 2, no. 2 (August, 2001): 221-239.

- Greer, Jennifer D. "Evaluating the credibility of online information: A test source and advertising influence," Mass Communication and Society. 6, no. 1 (2003): 11-28.
- Hatcher, John. "Passion for the 'Minor Leagues,'" Columbia Journalism Review. 41, no. 7 (May 2003): 66.
- Hauben, Michael and Rhonda, Netizens: On the History and Impact of Usenet and the Internet. Los Alamitos, CA: IEEE Computer Society Press, 1997.
- Hindman, Douglas Blanks, Stan Ernst & Mavis Richardson. "The Rural-Urban Gap in Community Newspaper Editor's Use of Information Technologies," Mass Communication and Society. 4, no. 2 (April 2001): 149-164.
- Janowitz, Morris. The Community Press in an Urban Setting: The Social Elements of Urbanism. 2nd Ed. Chicago: The University of Chicago Press, 1967.
- Kennedy, Bruce M. Community Journalism. Ames, Iowa: Iowa State University Press, 1974.
- Khosrow-Pour, Mehdi. Cases on Telecommunications and Networking: Cases on Information Technology Series. Hershey, Pa.: Idea Group Publishing, 2006.
- Kuhn, Thomas. The Structure of Scientific Revolutions, 2nd Ed. Chicago: The University of Chicago Press, 1970.
- Lauterer, Jock. Community Journalism: The Personal Approach. 2nd Ed. Ames, Iowa: Iowa State University Press, 2000.
- Li, Xigen. "Web page design and graphic use of three U.S. newspapers," Journalism and Mass Communication Quarterly. 75, no. 2 (Summer, 1998): 353-365.
- Lin, Carolyn A. and Leo W. Jeffres. "Comparing distinctions and similarities across websites of newspapers, radio stations and television stations," Journalism

- and Mass Communication Quarterly 78, no. 3 (Autumn, 2001): 555-573.
- McCracken, Grant. The Long Interview, Qualitative Research Methods Series No. 13, Newbury Park, California: SAGE Publications, 1988.
- McMillan, Sally J. "A four-part model of cyber-interactivity: Some cyber-places are more interactive than others." New Media & Society. 4, no. 2 (June, 2002): 271-291.
- Moghdam, Dineh. Computers in Newspaper Publishing: User-Oriented Systems. New York: Marcel Dekker, 1978.
- Mohl, Jeffery D. "Small newsrooms don't equate to small journalism," Quill. 91, no. 4 (May 2003): 3.
- Morrison, Margaret Ann. Using Qualitative Research in Advertising: Strategies, Techniques, & Applications. Thousand Oaks, CA: SAGE Publications, Inc. 2002.
- Mosco, Vincent & Janet Wasko, ed., The Political Economy of Information. Madison, Wisconsin: The University of Wisconsin Press, 1988.
- National Society For The Study Of Education, The. Technology And The Future Of Schooling: Ninety-fifth Yearbook of the National Society for the Study of Education, Part II. Ed. Stephen T. Kerr, Chicago: University of Chicago Press, 1996.
- Negroponte, Nicholas. Being Digital, New York: Alfred A. Knopf, 1997.
- Pardun, Carol J. "Theory into Practice: An Analysis of Qualitative Research in the Journal of Broadcasting & Electronic Media," Journal of Broadcasting & Electronic Media, 44, no. 3 (Summer, 2000): 529-534.
- Pitt, Joseph C. "What Is Science? What Is Technology?" History of Modern Science and Mathematics Vol. 1, Ed. Brian S. Baigrie, New York: Charles Scribner's

- Sons, 2002.
- Porteman, Piet. "Multimedia journalism: The journalist and the internet," Communicatie. 28, no. 2 (June, 1999): 2-19.
- Priest, Susanna Hornig. "Public Opinion, Expert Opinion, and the Illusion of Consensus: Gleaning Points of View Electronically," Chapter 2, The Electronic Grapevine: Rumor, Reputation, and Reporting in the New On-Line Environment, Eds. Diane L. Borden and Kerric Harvey. Mahwah, NJ: Lawrence Erlbaum Associates, 1998, 23-29.
- Quinn, Stephen. Knowledge Management in the Digital Newsroom. Boston: Focal Press, 2002.
- Ridell, Seija "The Web as a space for local agency," Communications: The European Journal of Communication Research. 27, no. 2 (2002): 147-169.
- Rintala, Niina and Sanna Suolanen, "The Implications of Digitization for Job Descriptions, Competencies and the Quality of Working Life," NORDICOM Review, 26, no. 2 (November, 2005): 53-67.
- Rogers, Everett M. Diffusion of Innovations, 5th ed. New York: Free Press, 2003.
- Saksena, Shashank and Ann C. Hollifield. "U.S. newspapers and the development of online editions," International Journal of Media Management. 4, no. 2 (Summer, 2002): 75-84.
- Shultz, Tanjev. "Mass media and the concept of interactivity: An exploratory study of online forums and reader email," Media, Culture & Society. 22, no. 2 (March, 2000): 205-221.
- Steel Panel Committee on Technology and International Economic and Trade Issues. The Competitive Status of the U.S. Steel Industry: A Study of the Influences of Technology in Determining International Industrial

- Competitive Advantage. Washington, D.C.: National Academy Press, 1985.
- Sylvie, George and Patricia D. Witherspoon, Time, Change, and the American Newspaper. Mahwah, NJ: Lawrence Erlbaum Associates, Inc., 2002.
- Taylor, Ronald E. "Qualitative Research," Chapter 14 in Singletary, M. Mass Communication Research: Contemporary Methods and Applications. Longman, 1994.
- Tewksbury, David. "What do Americans really want to know? Tracking the behavior of news readers on the Internet," Journal of Communication. 53, no. 4 (December, 2003): 694-710.
- Webb, Eugene J. & Jerry R. Salancik. "The Interview or The Only Wheel in Town," Journalism Monographs, (November 1966) 1-49.
- David Manning White. "The 'Gate Keeper': A Case Study In the Selection of News." Journalism Quarterly, 27, no. 4 (Fall, 1950): 382-390.
- Yin, Robert K. Case Study Research: Design and Methods. 2nd ed. Vol. 5 Applied Social Research Methods Series. Thousand Oaks, CA: SAGE Publications, Inc. 1994.
- Yin, Robert K. Applications of Case Study Research. 2nd ed. Vol. 34 Applied Social Research Methods Series. Thousand Oaks, CA: SAGE Publications, Inc. 2003.

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