

ABSTRACT

Title of Dissertation: EMERGING TECHNOLOGY AND ITS
IMPACT ON THE PRODUCTION AND
QUALITY OF LOCAL TELEVISION NEWS

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Technology is an integral part of journalism. Journalists use computers, IP-based servers, and digital gear as instruments to gather, process, and distribute news regarding events that impact our lives. Beyond the basic tools of the trade, the use of technology can dramatically influence the process of producing news. This project examines how the use of this technology impacts the collection, analysis, production, and quality of local television news. The study also addresses how technology is redefining the role of newswriters in local television newsrooms.

The methods of data collection include a survey and focus group of journalists with experience at local and national news networks, a content analysis of sixty local newscasts, and interviews with television news workers.

The research questions address the impact of technology on the production and quality of local television news. I ask, among other questions, whether the

increased number of required daily tasks has affected quality and whether news professionals say they see such effects; how, and to what extent, digital technologies such as IP-based store-and-forward technology, smaller portable newsgathering gear, and cellular-based transmission methods have affected production, and whether journalists say they see negative effects; that the use of network-affiliate and subscription-based news services have changed how local television news is produced.

Overall, I conclude that the role of a local television journalist has changed and a new hybrid editorial/technical role has emerged. These hybrid journalists are required to perform more technical tasks, resulting in time diverted away from traditional tasks such as story research, news analysis, and script writing. My research aligns with existing literature in proposing that these changes are contributing to a decline of quality in local television news. This is an indirect result of using newer technology. The use of these tools has made the collection and distribution of content more efficient, but the speed and ease of this technology have resulted in more tasks being performed by individual journalists, which leads to less locally generated content. In addition, the increased need to supply original content to station websites and social media platforms has also negatively affected quality.

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PRODUCTION AND QUALITY OF LOCAL TELEVISION NEWS

by

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DEDICATION

To my family and their unwavering support. Kristin, Marleigh, Madison, Jason, and Daniel have inspired and motivated me to work hard and better myself through academics. Your love and encouragement is forever in my heart.

To my parents Colonel Thomas and Rosina Scanlon, who inspired me to work hard, take chances, ask for help, and believe in myself.

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CHAPTER 1: INTRODUCTION

Journalists are experts at embracing new technologies and repurposing existing ones to create new methods of newsgathering, news production, and news content transmission. For television journalists, recent advancements in technology have increased not only the amount of content available for use in reporting, but they have also sped up the process in which that content can be accessed. Developments in technology have also expanded the range of locations available for live shots. Reporters are now able to broadcast from once impossible sites with little preparation or setup thanks to advancements in cellular-based systems, which are portable video and audio transmitters that uses a series of cellular cards to transmit high definition, HD, quality television signals. Cellular-based transmission systems give journalists the ability to broadcast live from anywhere cell service is available, even from extremely remote locations. But with all of these advances in technology, what does the use of these tools mean for the collection, analysis, production, transmission, and quality of local television news?

The default definition of news quality used in this study includes the elements of significance, enterprise, reporting with multiple viewpoints, accuracy, reliability, community relevance, originality, and thoroughness. This definition is based on the literature discussed in Chapter 2, the information gathered from the interviews and focus group conducted for this study, and my more than thirty years of personal journalism experience. Unless otherwise stated, this is the definition of quality news and newscasts used throughout this study.

Along with national and international networks, local television news journalists have cutting-edge technologies at their disposal to gather, transmit, produce, and distribute daily newscasts. These include lightweight live transmission systems: small portable gear, smartphones, and IP-based servers. Although these tools make collecting, processing, and distributing information easier, many broadcast journalists agree that technology not only affects the technical aspects of news production, but it also influences the editorial roles journalists provide and the subsequent quality of the news they produce. This was made clear by John, a producer and editor who worked for ABC, CBS, and PBS before settling down at a local FOX station in Little Rock and Joseph, a camera operator who has worked in Washington DC at numerous networks and independent news services over the last three decades.¹ Multiple producers with more than a decade's worth of local news experience stated that the introduction of new technology and improvements on existing ones have increased the number of daily tasks journalists are required to perform. For example, many broadcast journalists believe that the popularity of social media platforms and the ease that technologies such as the Internet and smartphones provide for the distribution of material from newsrooms and in the field increase the demand for original content on station websites and those social media platforms. As Copeland, an experienced camera operator from Miami points out, the increased demand for original content specifically for social media adds to the daily responsibilities of each journalist. Some in the industry worry these tasks also reduce the already limited time they have to concentrate on traditional tasks like researching

¹ All names of participants have been changed, in the text and in Appendix V, in accordance with the IRB-approved content form, which promised confidentiality. Whenever a first name is used without a last name, this refers to an (anonymized) participant.

content, interviewing subjects, consulting with colleagues, and writing stories. The result is fewer points of view, more recycled data, and less useful and unique information for viewers.

STATEMENT OF THE PROBLEM

Although scholars have studied how news professionals deliver story content and news products to consumers, too little attention has been paid to how news professionals use technology in the construction of a newscast. Researchers have not looked closely at how journalists utilize news service content and local news resources to see what impact, if any, it has on the roles and responsibilities of local television news journalists and on the quality of the news they produce. One major issue is the increasing numbers of tasks journalists are required to perform during a daily work shift. Producers and reporters are often responsible for researching and writing content, shooting and/or obtaining video, and editing different versions of the same news story for both newscasts and other platforms, including station websites and social media outlets. Reporter, producer, author, and web news editor Madison says that the time required producing for these multiple platforms leaves journalists with less time to gather video and graphic elements, interview subjects, and research and develop new stories (Madison, personal communication, September 17, 2016). I argue in this dissertation that this results in journalists having less time to perform long-standing and important duties such as newsgathering, data analysis, and story production.

PURPOSE OF STUDY

This dissertation addresses how technologies such as the IP-based news service delivery systems, cellular-based field transmission systems, and the increasing number of tasks required by station managers of broadcast journalists have influenced workflow, production methods, and, ultimately, the quality of local television news, at least in the view of those broadcast journalists using the technology. Television journalists have always relied on technology to produce news but the methods of utilizing technology have evolved.

From the first days of television news in the 1940s and through the 1980s, newsgathering crews needed to use cumbersome and expensive gear to record video and audio elements, as well as satellite news gathering (SNG) vehicles to transmit live shots and recorded material from the field. But since news outlets began transitioning from analog to digital equipment over the last decade, the cost and size of newsgathering and transmission gear have gone down dramatically. The increased use of technology such as handheld, portable cellular-based transmission units, social media, and news service content delivered via IP-based delivery systems by local stations, has redefined roles and workflows. While the more traditional methods of microwave and satellite transmission have been researched for decades, the impacts of news service content delivered via IP-based servers, handheld cellular-based transmission systems that are replacing microwave and satellite vehicles, such as LiveU and Dejero, have not been adequately studied.

In the rest of this chapter, I will first explain the differences between data, information, and knowledge and how journalists convert raw facts into news stories.

This is followed by how technology is perceived as influencing workflow, production methods, and ultimately the quality of local television news. This includes the current methods of collection, distribution, and remote transmission. The human element is also discussed, as is the importance of efficient newsroom design. Then, I will examine the impact of the one-man-band method of news production, which is also known as personal digital production (PDP) and/or journalism produced by video journalists (VJ) and solo journalists (SJ). This method is defined as a reporter who assumes all the roles once fulfilled by an entire crew, including reporting, shooting and video editing (Hemmingway, 2008). This is relevant because a key factor in the problem of workflow and the production of local television news is the increasing number of tasks required by journalists that impact the time available to spend on completing traditional responsibilities such as writing and researching stories.

The significance of the study follows below, in a way that addresses the value of the research and how journalists are adapting to new workflows, job roles, and responsibilities. Then I present the research questions for the study, followed by the definitions of terms.

BACKGROUND OF THE PROBLEM

Converting information into knowledge works best when workers draw on not only their own personal experiences and unique skills to analyze information but also from that of their coworkers (Davenport and Prusak, 1998). Knowledge management experts Marshall, Prusak, and Shpilberg (1996) argue that knowledge management is not simply the storage and manipulation of data or information, but

rather, “The attempt to recognize what is essentially a human asset buried in the minds of individuals, and leverage it into an organizational asset that can be accessed and used by a broader set of individuals on whose decisions the firm depends” (Marshall, Prusak, and Shpilberg, 1996, p. 79).

Journalists need to efficiently manage data, knowledge, and information. In television news, data includes the unedited raw video and audio from multiple sources. For example, in reporting on a news conference, a protest, an interview, or a speech, journalists take data from the event and convert that data into news accounts to inform their audiences. Data becomes information when the sender adds interpretation, sense, and meaning by removing errors, defining terms, and summarizing the data to reduce it into a concise form. Knowledge is created when journalists use skills such as objectivity, storytelling, and strong writing in the analysis of the data.

Referring to business organizations in general, educational theorists Etienne and Beverly Wenger discuss the value of communities of practice that contain “[g]roups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly, highlight the crucial process of managing people, not only the technology and data” (Wenger-Trayner & Wenger-Trayner, 2015, p.1). In addition, David Krackhardt, a pioneer of the cognitive social structures concept along with Jeffrey Hanson, who specializes in public policy and management, stress the value of informal organizational structures where employees share information and data to solve problems without input from managers. The two professors also warn of the harm informal networks can create due to the potential

undermining effect these can have on formal organizational structures and the overall vision of company leaders (Krackhardt and Hanson, 1993).

In journalism, poor management of data, information, and knowledge lowers the quality and value of the news stories produced. Mobile and digital journalism expert Stephen Quinn points out: “The better the quality of the information obtained and managed, the better the quality of the journalism produced” (Quinn, 2005, p. 153). Methods of collection, distribution, transmission, and storage are key functions of success in terms of the production of news. However, research shows a significant factor in the production of news stories is the human element (Davenport, Harris, De Long, and Jacobson, 2001).

The design of workspaces can also facilitate knowledge sharing, including in newsrooms (Quinn, 2005). “Intelligent office design reflects the social character of work - the way in which people act as resources for each other, rather than as information providers” (Quinn, 2005, p. 159).

With the introduction of digital technologies and smaller gear, reporters and producers can now perform more tasks in the production of news stories. As a result, reporters and producers have less time for reporting when they are required to do technical tasks such as shooting and editing video (Conboy, 2014; Malone, 2009; Scott, Gobetz and Chanslor, 2008; Smith, Tanner and Duhe, 2007). Research also shows the amount of time available to journalists to perform routine functions, such as following story leads, conducting research, writing scripts, interviewing subjects, and checking sources, has decreased because of an increased demand to produce

additional content on other media platforms, such the station's website, Twitter, and Facebook (Phillips, Lee-Wright and Witschge, 2012).

One example of combining technical tasks with editorial responsibilities is the increased use of the one-man-band method of journalism. Reporters are required to perform more tasks as part of the one-man-band method of news production, which is when one person assumes all the roles once fulfilled by an entire crew, including reporting, shooting and video editing (Hemmingway, 2008). The digital technologies such as smaller cameras, digital audio recorders, lightweight LED lighting instruments, and cellular-based transmission methods make one-man-band tasks easier to perform. Veteran reporter and producer Marleigh says that these resources also enable live broadcasts from any location where cellular service is while allowing journalists to collect, store and distribute news more quickly and efficiently available (Marleigh, personal communication, August 7, 2016).

The one-man-band method also exemplifies how emerging technologies can negatively affect local news production. Doing more than one task simultaneously or multitasking, meaning one person performing multiple aspects of news production including both editorial and technical tasks, can give journalists more control over their own content and add editorial authority (Phillips, Lee-Wright & Witschge, 2012). The assistant news director at Miami's WSVN Rosina says that some managers, news directors, and reporters see this, because it uses fewer people, as an efficient way to lower costs (Rosina, personal communication, October 15, 2016). But many journalists report that acting as a one-man-band spreads them too thin and that the quality of their work often suffers as a result (Martyn, 2009).

In some respects, the use of newer technologies has increased the efficiency of production and overall quality of news, including nearly instant access to a greater amount of content via news services and digital distribution systems, smaller and cheaper newsgathering gear, and handheld transmission systems. The definition of quality news is based on fundamental elements such as significance, enterprise, balance, accuracy, reliability, and community relevance (Belt and Just, 2008; Roberts and Dickson, 1984; Rosenstiel, Gottlieb and Brandy, 2000).

However, multitasking and overloading journalists with an increasing number of tasks also contribute to a decrease in quality. For instance, when individuals multitask, research shows quality suffers:

Nowhere are these limitations more evident than in the situations where people attempt to perform two or more attention-demanding tasks concurrently. In these situations, a reciprocal pattern emerges where performance on one task prospers at the expense of the other ... Conventional wisdom suggests that people cannot multitask (or 'time-share') without performance decrements on one or more of the constituent tasks. (p.77) (Phillips, Lee-Wright, and Witschge, 2012, citing Watson and Strayer 2010:479)

According to digital and social media expert Professor Rena Bivens, many media providers are now using less expensive, smaller gear to increase the speed at which news can be gathered and processed. As a result, decisions about technology are often shaped by expectations of immediacy, "When necessary, transmission technologies are chosen by sacrificing quality for speed" (Bivens, 2014, p. 211). Bivens argues that choosing speed over slower news production methods lowers the quality of news and only increases when journalists spend more time processing and analyzing information (Bivens, 2014). Furthermore, journalists report that the new

gear and resulting changes in workflow along with the increasing number of live shots from remote locations have been at the expense of quality journalism.

“Journalists continually referred to the lack of time available for newsgathering, which inevitably plays a large role in the reduced quality of coverage” (Bivens, 2014, p. 212).

News services are a positive part of news production but the use of these services also includes negative aspects. Since each station in a given market has access to the same media content from multiple content providers, the content of local newscasts often has less diversity. Stations not only use the same raw video and packages, but they also use the same suggested scripts, introductions, and tags provided by the news services with each story. The following video clip shows late-night talk show host Conan O’Brien making fun of how anchors at multiple stations with different network affiliations unknowingly read precisely the same introductory script provided by the news service. What is not shown in the video is that the exact same news package follows the introduction.

“Newscasters Agree: The End of Email Overload?” (Coco, 2007)

<https://www.youtube.com/watch?v=8p7RnDQwFRw>

SIGNIFICANCE OF THE STUDY

This dissertation examines the impact that IP-based news service, other digital technology, and the multitasking these technologies facilitate have on local television news production. I also explore the evolving roles of local broadcast journalists and how they restructure their workflows to adapt to the changes. Additionally, I

examine the increased demands on a television journalist's time as more responsibilities are added to a daily workload already focused on researching, analyzing, and writing the stories of the day, and how that demand influences the quality of local television news.

Multitasking affects nearly every type of business and television news is no exception. Traditionally, production tasks on both the technical side, including shooting, video editing, lighting, and transmission, and the editorial side, such as researching, interviewing, and writing, were spread among members of a crew, with each member specializing in either a technical or editorial role. By combining the technical and editorial, one person is then responsible for additional tasks typically outside his or her realm of expertise. All of this is done during a single shift, often several times a day as stories and assignments change, to produce content for a station's multiple newscasts, its website, and its social media platforms. While multitasking is a significant topic of discussion among journalists, no study examines how it redefines their individual roles, particularly in the local television news industry.

Moreover, while research has addressed a variety of factors that affect the quality of national news, more research is needed to determine how newer technology, specifically IP-based news content services and cellular-based transmission systems, influence local news. Little research considers the evolution of video news services, such as the digital IP-based store-and-forward technology, that facilitate the collection and distribution of media content, and the impact on local news production and quality and the roles and responsibilities of local journalists.

Therefore, in the interest of improving local television news programming, this research aims to provide local television journalists, news directors, and executive producers with information about the dangers of mismanaging the use of technology in the newsgathering, production, and transmission of news content. This study may also inform managers in other industries about how new technology can reduce the quality of their product by altering employee workflow and job responsibilities.

RESEARCH QUESTIONS

In order to achieve the goals of this study, I developed the following research questions:

RQ1 - How, and to what extent, have digital technologies such as IP-based store-and-forward technology, smaller portable newsgathering gear, and cellular-based transmission methods affected the production of local television news?

- I expect that broadcast news professionals will report that digital technology such as IP-based store-and-forward technology, smaller portable newsgathering gear, and cellular-based transmission methods have dramatically changed the workflow and production methods of local television news.

RQ2 - To what extent, and in what ways, will news professionals say that the use of network-affiliate and subscription-based news services have changed how local television news is produced?

- I expect most broadcast news professionals will agree that the use of network-affiliate and subscription-based news services have changed how local television news is produced.

RQ3 - To what extent, and in what ways, will local television producers and reporters say that the increased number of required daily tasks have affected the production of local television news?

- I expect local television producers and reporters will say that the increased number of required daily tasks has negatively affected the production of local television news.

RQ4 - How and to what extent, have the increased number of required daily tasks affected the quality of local television news?

- I expect most broadcast news professionals will agree that the increased number of required daily tasks has dramatic, some positive but mostly negative, effects on the quality of news.

DEFINITION OF TERMS

Keys terms and phrases include news services, store-and-forward technology, cellular-based transmission, VO-SOT, B-roll, one-man-band, quality, and diversity.

News services provide content to affiliate stations and subscribers in many forms of original and aggregated media, including wire copy, live shots, and video content. Every element that is retrieved, whether it is a sound bite, a graphic or a complete news story (package), includes detailed information (metadata) on the

subject including where the element was collected, the name and contact information of the person who uploaded the element, a brief explanation of the event, and the restrictions that might apply to certain clients. When retrieving a complete package, an anchor introduction and closing tag are included. An entire newscast can easily be constructed from the hundreds of elements available via store-and-forward technology.

The technology that has precipitated the dramatic change in local news production is **store-and-forward technology**, which warehouses media content in massive local and remote servers that provide material accessed by satellite, ISDN (via public telephone networks) or fiber optic lines directly to newsroom desktops and edit bays. Producers, reporters, and video editors have the ability to view and download material on demand from the parent network news service (ABC, CBS, FOX or NBC) with which they are affiliated. Stations cannot use news services from a network with which they have no affiliation; but they can pay for a subscription-based media content provider such as CNN Newsource, Associated Press Television News Service (APTN), and Reuters Video News Service. The systems allow clients to upload their own content to the server, a feature that was previously not offered with the satellite feeds, thus allowing the news services to source more material from their own clients, which in turn provides local news producers with even more content options. That means with these services local newscasts could contain hundreds of different media content elements from multiple providers, compared to the limited quantities of elements available on scheduled satellite feeds delivered in a real-time format.

There are stark differences between how producers, reporters, and video editors performed their jobs before and after store-and-forward technology was introduced. The distribution of recorded video and audio material between networks and affiliate stations did not become common until the Vietnam War. Film footage from the battlefield was transported back the United States, usually to New York City, on commercial aircraft to be processed. The entire procedure took from three days to a week or more to complete. Once complete, networks distributed the raw news footage and news packages to their local affiliate stations throughout the country. In some cases, stations received the content by recording the off-air, clean versions of their networks' newscasts, meaning without the on-screen graphics such as the anchor's name or network call letters. In the early 1980s, videotape replaced film and made the turnaround of material much more efficient. Affiliate stations would receive material from the parent network and/or subscription-based news services at scheduled times via satellite feeds. For example, APTN's 'Prime News – Europe' news satellite feed first ran at 3:30 a.m. GMT and was updated three times a day, lastly at 10:30 p.m. GMT. Each feed lasted fifteen to twenty minutes. Although the process cut the delay from days to hours, the amount of content was limited because the material was played from the source in real-time. Therefore, the amount of material was restricted to the length of the feed window with fifty minutes of material being the maximum available in a one-hour period. The remaining ten minutes were filled with a graphic on the screen containing information on each element such as video location, source, the record date, identifying story number, etc. This transmission method provided stations with ten to twenty elements per hour.

Today, each network television news organization distributes media content through a number of different store-and-forward products, all of which offer remarkably similar features, such as common user interface, video playback, and metadata. Each product utilizes an internet-based interface for news professionals to view content. After media content is selected, it is routed via satellite, ISDN, or fiber optic lines to the station to be recorded.

Extreme Reach (formerly named Pathfire) and Bitcentral are the two dominant store-and-forward turnkey hardware systems produced by outside vendors that facilitate the collection and distribution of digital media content. Among network affiliate news services, ABC NewsOne and FOX News Edge use the Extreme Reach system, while CBS Newspath and NBC News Channel use the Bitcentral system. Subscription-based CNN Newsource also uses Extreme Reach but APTN and Reuters created their own store-and-forward technologies, called AP Media Port and Reuters World News Express.

Television broadcasters are moving away from using microwave vans or large satellite vehicles to transmit live video and audio from remote locations. The most common technology used by national networks and local news outlets are those using **cellular-based transmission** systems. Companies like LiveU and Dejero offer lunchbox and handheld sized gear used to transmit broadcast signals back to the studio via cellular telephone networks like AT&T, Sprint, and T-Mobile. Each unit has up to six SIM cards used to transmit encoded signals back to the network or station facilities where the signal is decoded and available for live air or can be recorded onto computer editing systems.

A common term used to describe elements of a news package or a news story is **VO-SOT**. The VO stands for ‘Voice Over’ and refers to the video that is played during a newscast while the anchor or a reporter reads a script. The SOT stands for ‘Sound on Tape’ and refers to a sound bite used in a new segment or package within a newscast.

Another term commonly used by television news staff is **B-roll** that refers to supplemental video used in a news story. For example, if the story is about a car accident, the B-roll would be shots of the crashed car, the police on the scene, a close up of the damage, a wide shot of the crowd that gathered at the scene or any other video element that is used to better explain the story.

A **one-man-band** is a reporter who performs many or all of the following tasks: interview subjects, write scripts, shoot video elements, video edit stories, create graphics, and shoot and transmit his or her own live shots.

Defining **quality** in terms of local broadcast television news is an integral part of this study. The interviewees agreed on many components of what constitutes a quality newscast, including accuracy, originality, and thoroughness. The focus group participants all agreed that in order to produce quality local television news, journalists must prioritize stories that matter to local audiences and inform the community.

Diversity is defined here as the amount of variety of topics in a newscast. These topics can include local, national, and international stories, investigative pieces, and reports on topics such as health, government, and entertainment.

FOX News Edge

Because I have more than 20 years of experience using the FOX News Edge systems, I will use the version of the store-and-forward technology used by FOX affiliated stations that is called Extreme Reach. That said, having had frequent discussions with colleagues and professionals from rival stations, and having seen the technologies in action, I know that the store-and-forward systems used by each network are similar in design and function. I am therefore confident that the technology I describe below is representative.

The version of the store-and-forward technology used by FOX affiliated stations is Extreme Reach. Extreme Reach is an integrated system (combining content such as video, scripts, metadata, complete news packages from multiple source and retrievable from network servers) connecting the eleven FOX News Channel bureaus, the 17 FOX owned and operated (O&O) stations, the more than 160 affiliate news stations, and independent clients including non-FOX affiliated stations and international clients in France, China, and Afghanistan who subscribe to the service. The system allows the user to access MPEG streams of video, IP encapsulated MPEG files, file-based broadcast channels, local area network routing, IP multicasting, and a web browser for LAN control, storage and server files.

The following snapshots are of the FOX News Edge Extreme Reach website and the content and services choices available (retrieved 10/15/2018).

The following thumbnail is the main page and presents all of the services available.

The screenshot displays the FOX NEWS EDGE website interface. On the left, there is a vertical navigation menu with buttons for: Edge Cloud, Request Video, Request Live Shot, Request Custom Tag, Upload Video, Contacts, Tutorials & Script Archive, Satellite Coordinates, Fox Stream Links, Extreme Reach Support, foxnews.com, and Affiliate Sites. At the top right, there are buttons for Show Alerts and Logout. The main content area is divided into 'Recent (10)' and 'Popular (10)' sections, each showing three video thumbnails with titles like 'SEN. WARREN DNA TEST OF NAT...', 'BLACK HAWK RESCUES AFTER H...', and 'MUSEUM OF PIZZA OPENS IN NY...'. Below these sections is a table with tabs for Advisory, Rundown, Scripts, and System Updates. The 'Advisory' tab is active, showing a table with columns for Slug and Date. On the right side, there is a red sidebar with 'FOX Box Audio' and several video player thumbnails with titles like 'ELC 1: FOX - CAPITOL HILL...' and 'ELC 2: WNYW - NY Gloria Allred Miss America Pageant Prosser- EMBARGO: NNS - STREAMABLE'.

Slug	Date
FOX ORIGINAL PKGS / MONDAY	10/15/2018 2:18 PM
UPDATED DC LIVES: NEWS OF THE DAY - NIGHTSIDE - MONDAY 10/15	10/15/2018 12:20 PM
LLYLL 2 CUT-IN: TRUMP BRILING ON HURRICANE MICHAEL - MONDAY APPROX 11:25AM LI	10/15/2018 10:03 AM
NEWS EDGE CONTACTS MONDAY	10/15/2018 6:29 AM
LIVES: HURRICANE MICHAEL DAMAGE - DAYSIDE - MONDAY 10/15	10/15/2018 6:26 AM
LIVE EVENTS 1 MONDAY	10/14/2018 8:24 PM
DC LIVES: NEWS OF THE DAY - DAYSIDE - MONDAY 10/15	10/14/2018 7:13 PM
FOX ORIGINAL PKGS / SUNDAY	10/14/2018 6:29 PM
NEWS EDGE CONTACTS 10/15	10/14/2018 1:09 PM

The following screen grab shows thumbnails of sample video content available.

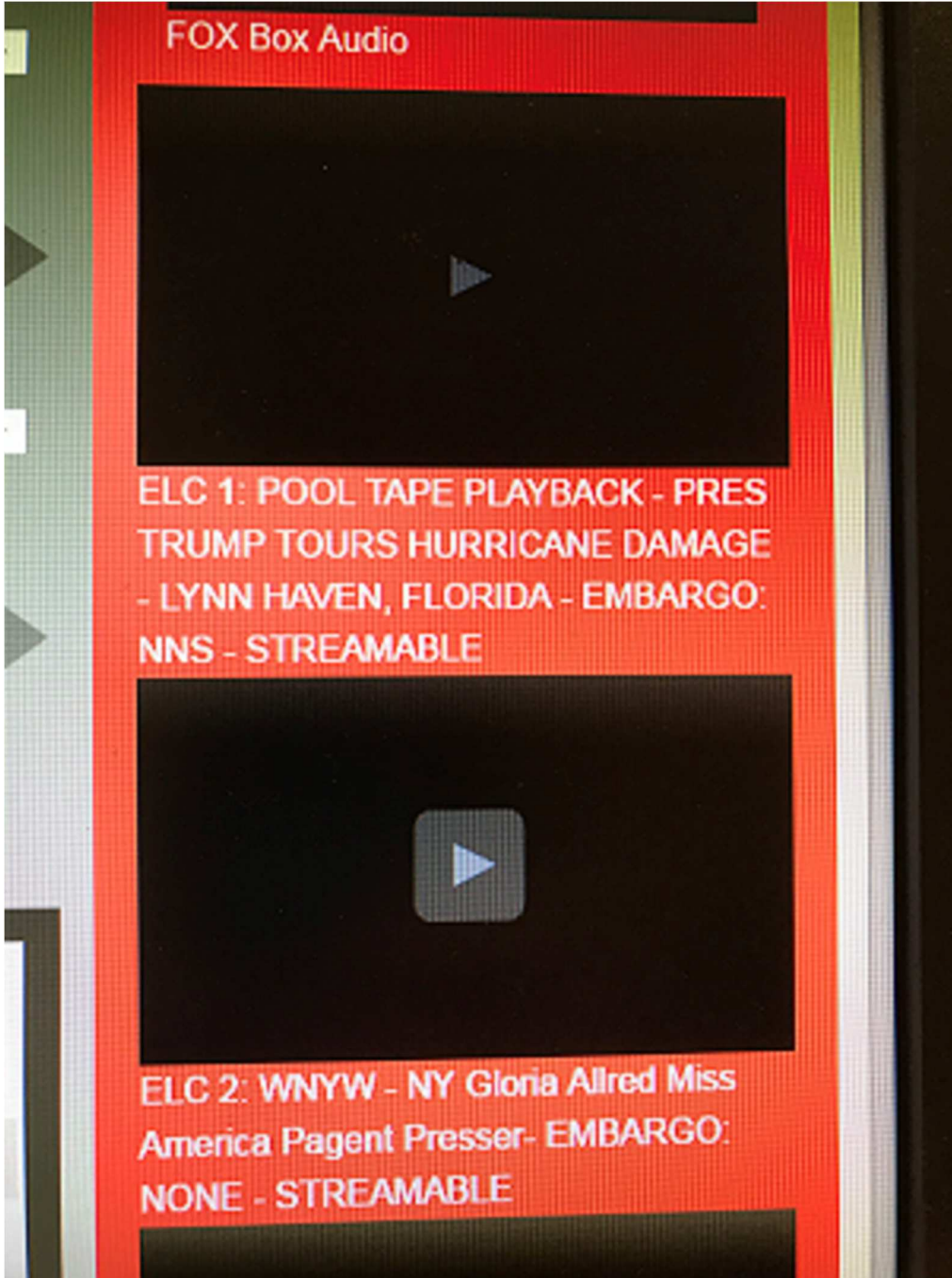
The screenshot displays a video content management interface. At the top, there are navigation tabs: "Rundown", "Scripts", and "System Updates". Below these are several video thumbnails with their respective titles:

- NFL/PATRIOTS BAN BEER THROW...
- CFB/PURDUE BROHM PRESSER (...)
- AMERICA'S RUST BELT HOLDS K...
- STORM MICHAEL 10/14 (MIKE TO...
- TRUMP/MISSING JOURNALIST 10...
- STORM MICHAEL 10/15 (RAY BOG...

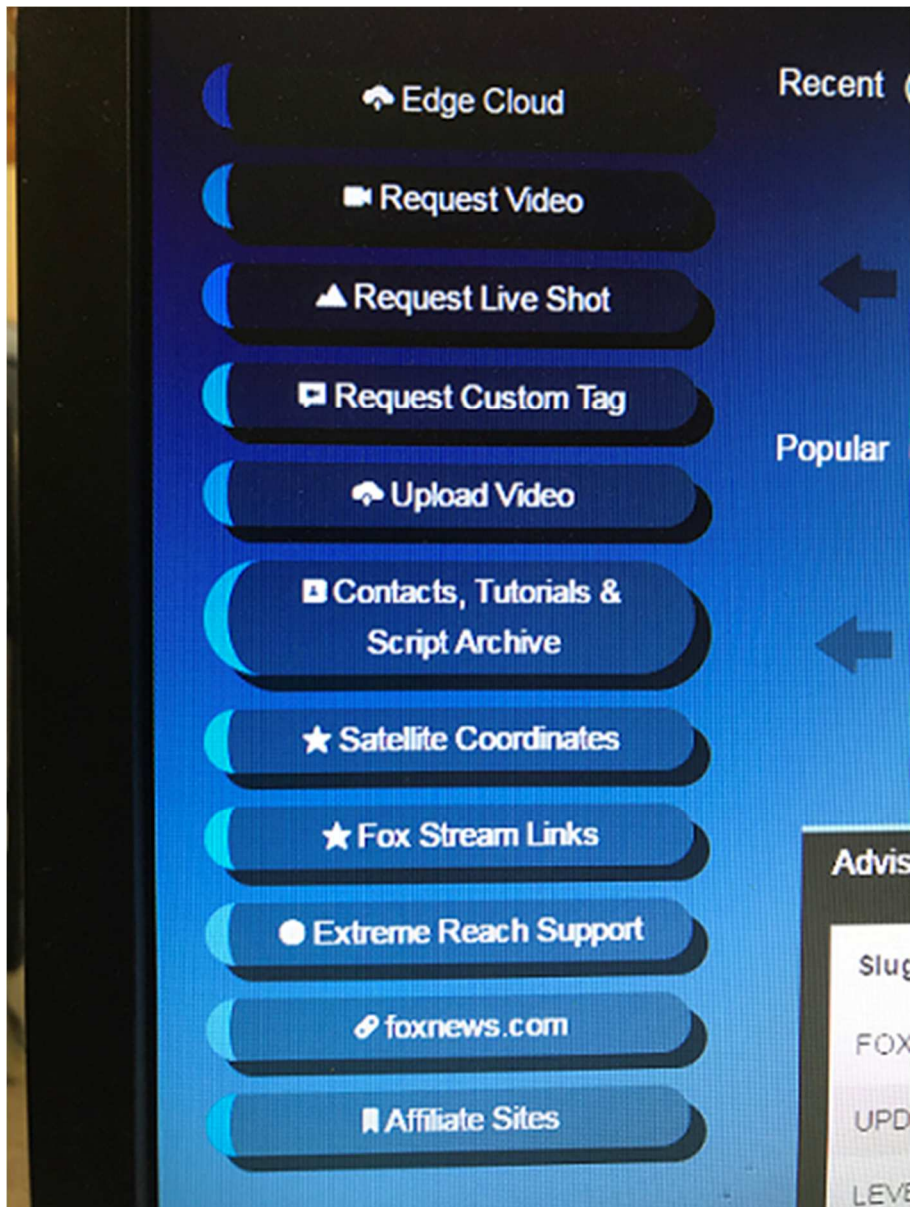
Below the thumbnails is a table with the following content:

	Date
BINAL PKGS 7 MONDAY	10/15/2018 2:51 PM
YDC LIVES: NEWS OF THE DAY - NIGHTSIDE - MONDAY 10/15	10/15/2018 12:20 PM

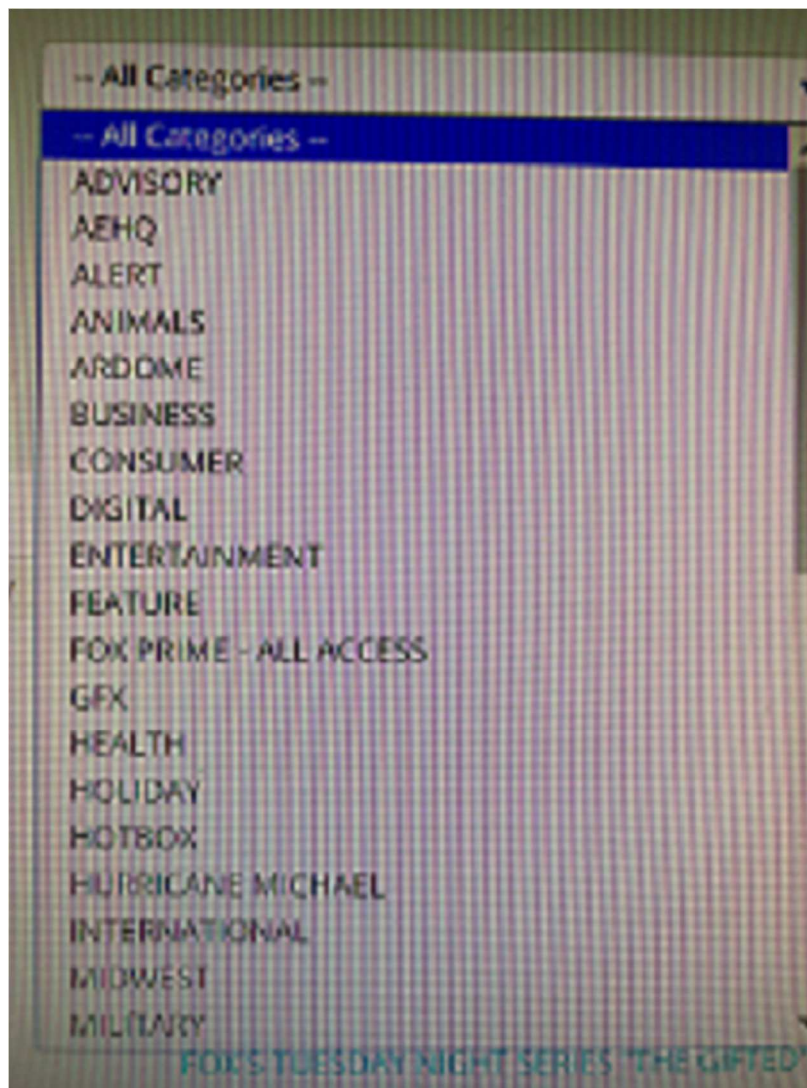
This screen grab shows video content stations can stream.



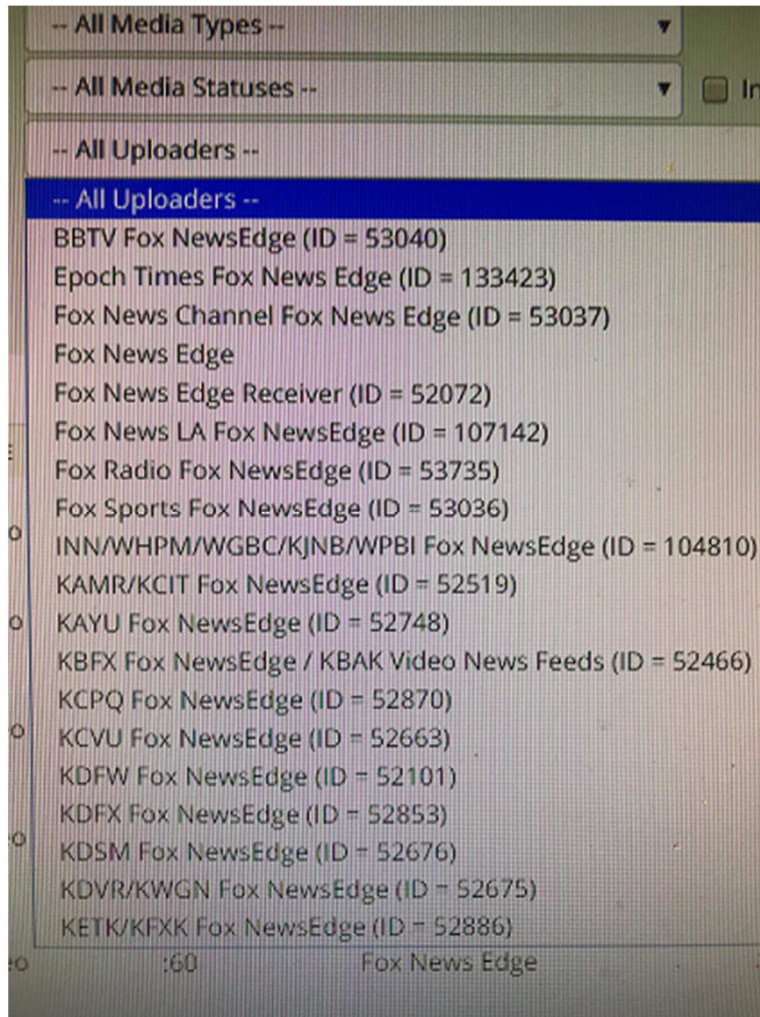
This screen grab shows the different services available.



The following screen grab shows how the elements are categorized.



The final screen grab shows which organization has uploaded the original content.



Multiple News Services

Local stations will often use their own network's affiliate news service but also add one or more subscription-based news services for additional content. For example, a local CBS affiliate station may use both CBS and CNN Newsource. Some large and midsize market stations subscribe to APTN and/or Reuters as well.

However, using multiple news services commonly results in the same media content appearing on different services. This occurs because the network affiliate services contain content from the parent network, content uploaded by the network-affiliated stations, and media content from subscription-based news services such as CNN, APTN, and Reuters. Each of these services contains original content as well as additional content provided by outside sources as well as pool video for national news.

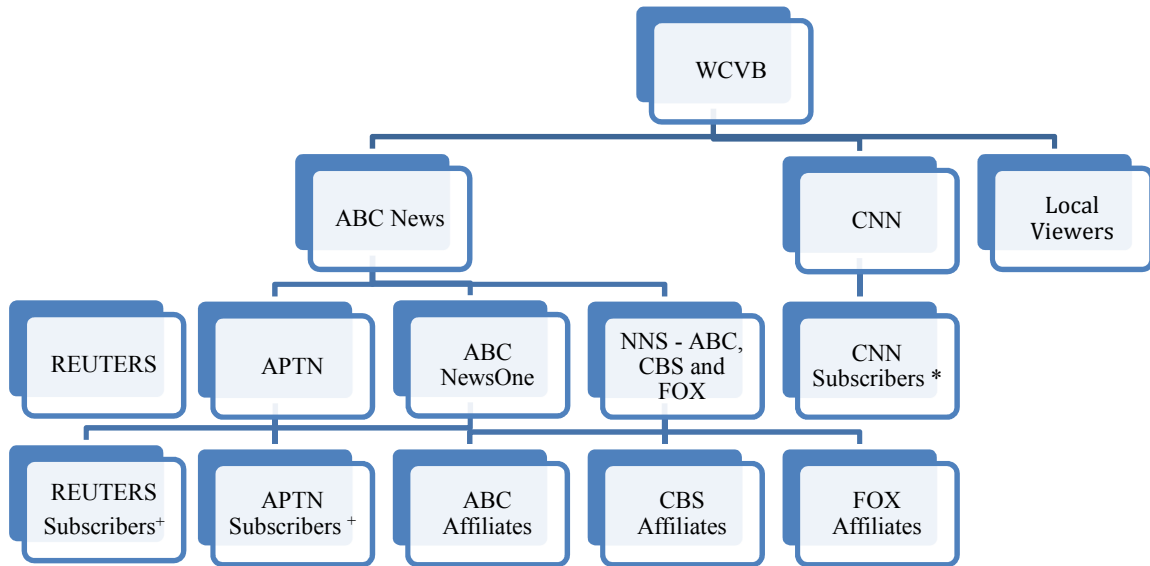
With the introduction of server-based file distribution methods, hundreds of elements are currently available for retrieval to anyone at the station. Staffers simply request files from the news services' remote servers and then either download the content onto a local server or route the content to a video record deck. As a result, producers and video editors no longer need to wait for scheduled feed times to retrieve their material.

Another advantage to server-based material is that the producers and video editors can view all this material on a personal computer via a web-based viewer instead of in the centralized technical center where the material has traditionally been recorded. This makes it easier for producers to multitask with their other duties, including editing scripts and video content, writing notes, and making phone calls.

The value of store-and-forward technology, web-based interface platforms, and advanced transmission methods is that they offer news professionals a tremendous variety of media content in an efficient, timely manner. However, because collecting content from multiple sources and distributing to multiple clients is so easy, it is common for several stations within a competing market to end up using the same content in their newscasts. For example, a CBS affiliate station can receive the exact same content from up to six sources; the CBS network directly, CBS Newspath, CNN Newsource, APTN, Reuters, and Network News Service (NNS), which is an additional content-sharing arrangement CBS has with ABC and FOX.

The following is a detailed example of a potential distribution path of content from the original supplier to multiple consumers. During its coverage of the Boston Marathon bombing, WCVB, an independently owned ABC affiliated station in Boston, provided original content including live video and recorded material not only to its local viewers, but also to ABC NewsOne, which in turn distributed that same content available to all of the ABC affiliated stations and to NNS. As a CNN Newsource subscriber, WCVB also supplied the same content to CNN, who in turn provided the material to its other local news subscribers outside the Boston television viewing market and included stations affiliated with the other three major networks. APTN, who has a partnership with ABC News, distributed the WCVB material to its subscribers globally. Therefore, every ABC affiliate, CNN Newsource subscriber and APTN subscriber had access to the exact same WCVB content.

WCVB Boston Marathon Bombing News Content Potential Distribution Path



* CNN subscribers include: Networks: ABC, CBS, NBC, US Local Affiliates, International clients and a partnership with NBC News

+ APTN and REUTERS subscribers include: Networks: ABC, CBS, NBC, FOX News, US Local Affiliates, International clients and partnerships with ABC News and SKY News (UK).

Each news service regularly puts restrictions on content. In the WCVB example above, the multiple news services that received content from WCVB will place a local market embargo on the material, prohibiting other stations in the Boston viewing market from using the content. APTN and Reuters commonly restrict the use of various international news content based on specific contractual stipulations. Some of the complete news packages on the news services will even contain restricted and unrestricted content in the same story.

ORGANIZATION OF THE DISSERTATION

Chapter two of this dissertation focuses on the relevant literature, including the definition, differences, and use of data, information, and knowledge, in the television industry and the current collection of technology used in local newsrooms and in the field. The chapter ends with an analysis of literature examining journalists' roles and responsibilities in local television news production and a review of the literature focused on local television news quality.

The third chapter covers methodology, which outlines the design and procedures used to collect data for this analysis, including a survey, a focus group, a content analysis of local newscasts, and interviews by journalists with local television news experience.

Chapter four presents the findings derived from each research method and addresses the research questions in conjunction with relevant literature while also acknowledging the limitations of this study. The interview and focus group findings show that journalists say that network-affiliated and syndicated news service content delivered via store-and-forward technology improves local television news workflow and makes daily production more efficient and effective. The content analysis shows that during weekday newscasts, smaller designated market area (DMA) stations produce considerably more locally generated content than larger DMA stations. Conversely, larger DMA stations include more news service content. However, on weekends, the larger DMA stations air more locally generated content in their newscasts than those in the mid-size and smaller DMAs.

The results of the content analysis also indicate that producers spend most of their time on editorial tasks, not technical ones. However, the results also confirm that the role of a producer is changing and their responsibility to perform tasks that are more technical is expanding. The participants in this study stated that the increasing number of technical tasks performed by producers, many directly and indirectly due to technology, does restrict their time to perform established editorial tasks and therefore does affect the quality of their work.

The majority of survey respondents, interviewees, and the participants in the focus group agreed that quality is declining. The largest contributing factors cited are the lack of time journalists must complete necessary aspects of producing news and the increasing number of tasks added to their list of responsibilities. For example, supplying original content to multiple media platforms such as Twitter, Facebook, and station websites reduces the amount of time reporters and producers have to perform traditional responsibilities such as researching topics, interviewing subjects, and writing and rewriting stories.

Chapter five explains how the results of this study expose gaps in literature pertaining to technology's impact on local television news production when it is put into practice. It also presents recommendations for future analysis.

CHAPTER 2: LITERATURE REVIEW

This dissertation focuses on how technology such as cheaper, more portable field recording and transmission equipment, IP-based news service delivery systems and the resulting increased number of tasks required of broadcast journalists have influenced workflow, production methods, and the quality of local television news. My purpose in discussing this literature is to show that while journalists have always utilized technology to improve efficiency, the tradeoff for some has been a decrease in the quality of their work.

I begin by discussing literature regarding the processes of turning information into knowledge, including literature from the business and management sector and several research projects directly addressing the importance of this conversion of facts into news stories, including the significance of how workspaces are designed. Second, I summarize the history of a sequence of pre-electronic developments in communication technology that are relevant to journalism, including the printing press, telegraph, telephone, radio, and television. I then discuss the more recent emergence of a variety of electronic and digital technology and the literature regarding the impact that improvements in digital technology used by journalists in newsgathering, collection, and transmission have on the production of local television news. Third, I analyze literature regarding the impact that the increasing number of daily tasks performed by local television news journalists has on the news they produce and literature regarding the impact these changes in daily routines have on the quality of local television news. Finally, I point to the major conclusions that

can be drawn from the literature relevant to my study and present the major gaps in research related to these topics.

DATA, INFORMATION, AND KNOWLEDGE

Data, information, and knowledge are distinct terms although their meanings vary and different disciplines define them differently. The key to success in any business is to understand the role of each one and manage them efficiently (Marshall, Prusak, & Shpilberg (1996). Three business leaders who conduct research in data, information and knowledge examined how poor risk management led to ineffective practice of knowledge management and thus the failure of three major companies, a British bank, a U.S. securities and investment firm, and a German metal refining and marketing company (Marshall, Prusak & Shpilberg, 1996). The authors, who are knowledge management consultants, university professors and leaders of IT businesses, claim managers failed to make sound financial and workforce decisions because of the firms' dysfunctional cultures, the fact that they were underutilizing their employees' skills, and that their day-by-day actions led to the mismanagement of the flow of information from the bottom to the top. For the latter, that means that instead of sharing data and information among different departments within the companies, managers kept valuable information to themselves. Knowledge management is not simply the storage and manipulation of data or information, "It is the attempt to recognize what is essentially a human asset buried in the minds of individuals, and leverage it into an organizational asset that can be accessed and used by a broader set of individuals on whose decisions the firm depends" (Marshall, Prusak & Shpilberg, 1996, p. 79).

Davenport, Harris, Long, and Jacobson (2001) examined more than twenty companies, including Dow Chemical, Bank of America and Harley Davidson to determine how they were able to improve their conversion of data into knowledge. The authors emphasize the value of managing employees and not just the technology and data: “Many companies have neglected the most important step in the data transformation process: the human realm of analyzing and interpreting data” (Davenport, Harris, Long, & Jacobson, 2001, p. 118). Similarly, two prominent consultants in organizational and knowledge management, Thomas Davenport and Lawrence Prusak (1998), emphasize that when business or corporate leaders are confused about the differences between data, information, and knowledge, they often make enormous expenditures on technology initiatives that rarely deliver what they needed or thought they were getting. Davenport and Prusak (1998) argue that organizational success depends on how these assets, data, and personnel, are managed. They define data as “[a] set of discrete, objective facts about events” (Davenport & Prusak, 1998, p.2), while information has meaning, relevance and purpose. The authors argue

[Knowledge] is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information? It originates and is applied in the mind of the knowers. In organizations, it often becomes embedded not only in documents and repositories but also in organizational routines, processes, practices and norms. (Davenport and Prusak, 1998, p.6)

These are meaningful distinctions that establish the importance of the human element in the process of analyzing raw materials. Understanding the differences between data, information, and knowledge is critical in managing the process of converting

data into information and finally, into knowledge. Data is raw, unprocessed material that is essential to all organizations and industries. Turning raw information into knowledge is also a fundamental tenet of journalism.

TELEVISION JOURNALISTS: SHARING AND CREATING KNOWLEDGE

In television news, data includes unedited video and audio from, for example, a news conference, a protest, an interview, or a speech. In the past, data had been stored on film and tape while today; it is stored on disks, hard drives, and digital servers. The digital era has not only changed what type of data is collected but also how that data is stored and shared. In television news, journalists take data and convert it into news accounts used to inform their audience, making it a message with a meaning from the sender to the receiver, say Davenport and Prusak (1998), who added, “Think of information as data that makes a difference” (p. 3). Data becomes information when the sender adds meaning. Removing errors from the data, defining terms or units of analysis, and summarizing the data to reduce it into a concise form can do this.

Research shows the key to a successful business relies on how data is managed once collected. Knowledge is created when co-workers add personal experiences and unique skills in the analysis of the data. This process clearly applies to the production of television news. Collecting and analyzing data as a group is difficult enough but is exaggerated when one person is collecting and analyzing more than one type of data in the form of interviews, video content, and background research, to name a few.

Professor of mobile journalism Stephen Quinn examines not only the need and the process for converting information into knowledge but also recognizes the human factor in the conversion: “In the process of synthesizing information, journalists create knowledge” (Quinn, 2005, p. 156). Raw facts become information when people use their hands and brains to process them (Quinn, 2005). Quinn (2005) points out that in television news, information is the massive amount of metadata that is collected, recorded, and written in conjunction with each element of news that is captured or produced. Information is packaged into many formats, including newspaper articles, web blogs, transcripts, television news stories, and tweets. With the introduction of digital technology, information is quickly available from numerous sources and outlets and is easily repurposed and redistributed. Information systems are only storage systems that permit knowledge exchange. Digital technology also makes searching, storing, retrieving, and sharing information faster and more efficient. Technology will improve how journalists manage and use data, information, and knowledge only if they embrace the tools available to them (Quinn, 2005).

In a newsroom, producers, news directors, reporters, and technicians hold tacit knowledge while explicit knowledge is available via the Internet, manuals, books, policies, procedures, and work rules. The key is to have both forms of knowledge available to everyone in an efficient and timely manner. Insight from colleagues is also a valuable tool so a newsroom design allowing easy collaboration among coworkers can lend itself to the successful sharing of data, information, and knowledge. Two experts in workspace design Franklin Becker and Fritz Steele use

multiple examples of large corporations, such as IBM, Aetna Life, and Levi Straus, to illustrate how restructuring company workspaces can maximize the sharing of information and knowledge. The authors stress the value of redesigning work environments for not only improving the interaction of workers with similar responsibilities but also for developing relationships between various departments at different levels of hierarchy in the company (Becker and Steele, 1995).

Situation cognition theorists Beverly Wenger-Trayner and Etienne Wenger-Trayner state that one method to encourage the transition is for organizations to develop communities of practice that are “[g]roups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly” (Wenger-Trayner, B. & Wenger-Trayner, E., 2015, p.1). Communities of practice consist of three parts:

- a) The domain: the participants must share an interest.
- b) The community: the participants share information and learn from each other by engaging in activities and discussions.
- c) The practice: it takes substantial time and sustained interaction.

Communities of practice enable co-workers to manage and share tacit and implicit knowledge, solve problems, request information, and identify gaps in research.

Working in groups is often more productive than working alone.

The research clearly shows that the process of collecting, contextualizing, and analyzing data is critical to converting raw material into valuable information and knowledge. While little of the research regarding the benefits of arranging workspaces and materials near each other in order to promote work experience and

collaboration is specifically focused on television newsrooms, what is available confirms that arranging newsroom workspaces so co-workers have physical access to each other and resources does improve communication and the sharing of content material. Doing this can create an environment of learning and that improves how journalists manage data, information, and knowledge (Quinn, 2005). However, there are fewer television journalists working in newsrooms these days, meaning they are spending less time in groups or near one another. This may increase isolationism and could restrict the sharing of information and knowledge. “The only way that I think [spending more time in the field and not in the newsroom] would affect the quality of the news is because of the isolation, because you don't have as many creative minds being part of the package” (Marleigh, personal communication, August 7, 2016).

The television newsroom design can also encourage the sharing of data, information, and knowledge, leading to greater use of data (Quinn, 2005). Having concluded that journalists work best when they work together, Quinn (2005) maps out the value of creating a well-organized newsroom in which reporters and producers work in close proximity to maximize collaboration. He argues that non-isolation is the best method of converting information, which he calls a journalist's raw material, into knowledge in a news environment. The better the quality of the information obtained and managed, the better the quality of the journalism produced. Journalists who speak the same language and have a high understanding of demands, needs, and possibilities work better when located near each other. Much of this learning is incidental and where people sit is often more valuable than direct communication. “The closer people are to the culture of the knowledge being transferred, the easier it

is to share and exchange” (Davenport & Prusak 1998, p. 159). In newsrooms where journalists are clustered, workers develop trust in each other, are more likely to ask questions and share information, even if it is exclusive.

HOW CHANGES IN TECHNOLOGY AFFECTS JOURNALISM

History professor and Society for the History of Technology founder Melvin Kranzberg’s six laws of technology are fundamental to this study because they illustrate how technology impacts the creation of news and how the human element is critical when adding technology to the local television news production process.

Kranzberg says (1986)

1. Technology is neither good nor bad; nor is it neutral.
2. Invention is the mother of necessity.
3. Technology comes in packages, big and small.
4. Although technology might be a prime element in many public issues, nontechnical factors take precedence in technology-policy decisions.
5. All history is relevant, but the history of technology is the most relevant.
6. Technology is a very human activity and so is the history of technology.

(Kranzberg, 1986)

Professor of technology and digital media Andreas Fickers agrees with Kranzberg that technology is never neutral, essentially taking a technological determinism position similar to that of Marshall McLuhan’s argument “the medium is the message” because “[t]echnologies influence the way a story is told and how the audience might perceive or interpret it” (Fickers, 2014, p. 48). Fickers uses the telegraph to illustrate this point. The telegraph did not just transmit signals at the speed of electricity; the technology also affected the style and form of communications. The telegram’s style of writing short

phrases that concentrated on the essence of the message was adopted by newspapers and gazettes (Fickers, 2014). Fickers points out that the same type of terse, pared-down communication form is preferred in new types of digital communications such as e-mail, text, and Twitter posts (Fickers, 2014). “Technological actants intervene in the production and reproduction of mediated messages, technology shapes specific formats of storytelling and narrative conventions, and technology frames our perception of reality” (Fickers, 2014, p. 46). Fickers suggests that the use of technology has dramatically affected how we deal with society as a whole,

Media and communication technologies not only shape our cultural imagination, they alter - on a very concrete and day-to-day basis - our interaction with people and the world. In affecting both the temporal and spatial dimension of communication, media technologies have changed traditional forms of social communication and offered new ways of mediated interaction with the world. (Fickers, 2014, p. 48)

TECHNOLOGY IN NEWSROOMS AND THE FIELD

Professor of Engineering and History Henry Petroski argues that the use of technology is a social construct and no form is perfect. “Designing anything, from a fence to a factory, involves satisfying constraints, making choices, containing costs, and accepting consequences” (Petroski, 2003, p. 13). Journalism is no different. It is a fluid process that changes with each new technology yet maintains many traditional practices.

Printing Press

The first case of journalists using technology for the collection and reporting of news involved the printing press. The printing press altered methods of data collection, storage and retrieval systems, and communications networks throughout

Europe (Eisenstein, 1979). Already in the 17th century, British philosopher Francis Bacon (1620) correctly observed that when Johan Gutenberg introduced his movable type printing press around 1440, the appearance and state of the world changed (Stephens, 1989). It shifted society from one that relied on handwritten manuscripts to a culture that enjoyed exact replication of maps, stories, histories, scripture, diaries, and cheap copies of publishing covering a myriad of subjects. Another advantage was that printed materials could reach a large audience, thus making print the first form of mass media (Eisenstein, 1979).

Journalists of the time realized the power of Gutenberg's printing press by using it to help spread news and information faster and over greater distances. For example, the news of Christopher Columbus' historic explorations spread quickly throughout Europe after his return to Spain in 1493 when a letter he wrote to the Spanish court was printed and distributed in Barcelona even before he appeared before the court. The letter was also printed and translated in Rome, Paris, Antwerp, Basel, and Florence (Stephens, 1989). The Gutenberg printing press also created a method of producing great numbers of copies at a much lower cost than the previous handwritten manuscripts, offering small business an opportunity to open bookstores throughout Europe (Eisenstein, 1979). Its use in the earliest forms later expanded to become a cornerstone of mass media economics.

Telegraph

The introduction of the telegraph in the nineteenth century had a substantial impact on journalism, and continues the pattern established with the printing press of subsequent technologies having important implications for who had access to

information, what kind of information was most likely to be distributed or shared, and who controlled information; most obviously, waves of new technologies affect how many people are required to gather news, and affect the speed and cost of transmission/access. Media communications professor and researcher Patricia Dooley cites Frederic Hudson's 1873 *History of American Journalism* as the first to document an account of the initial uses of the telegraph by newspaper professionals. The telegraph gave news providers a method of transmitting news great distances almost instantaneously. As a result of the faster delivery system, more newspapers were started. Thirty new newspapers began in Illinois within a decade of the telegraph's introduction (Dooley, 2007). Two years after the telegraph was launched, the Associated Press was formed by five New York papers, *The Sun*, *The Journal of Commerce*, the *Morning Courier and New-York Enquirer*, *The New York Herald*, and the *New York Evening Express*, to share the costs of covering the Mexican-American War (Dooley, 2007). The telegraph connected geographically dispersed news organizations in what Tom Standage called the 'Victorian Internet' (Heinrich, 2011).

Telephone and Radio

The introduction of both the telephone and radio improved upon the telegraph's technology of message distribution because it "permitted ordinary people to talk and hear over vast distances" (Fischer, 1992). The first use of the telephone in the news process occurred in 1877, when a *Boston Globe* reporter sent a dispatch that read: "This special dispatch of the *Globe* has been transmitted by telephone in the presence of 20 people, who have thus been witnesses to a feat never before attempted

- the sending of news over the space of sixteen miles by the human voice” (Dooley, 2007, p. 54).

The telephone was first used as a news service in 1893 when a Hungarian engineer began collecting and distributing content to six thousand subscribers. Programming included concerts, lectures, newspaper reviews, stock market results, and speeches by members of Parliament (Crowley and Heyer, 1991). Print reporters have also used the telephone for decades to verify information and conduct long distance interviews thus saving expense and time, freeing up the reporter to do more interviews for stories (Quinn, 2005).

In the early twentieth century, journalists were able to report information much faster because they could telephone reports to rewrite desks from the scene, shortening the time between an event and the printed article (Quinn, 2005). The telephone and telephone transmission lines have long been used to send and receive news and information starting with faxes in the early 1920s, followed by videotex, an electronic data retrieval system that is transmitted over phone or cable television lines and displays text on a display monitor. More recently, fiber-optic telephone lines began delivering high speed Internet and high definition television.

Today, journalists use telephone cellular systems to transmit information and news via mobile phones in the form of texts, photos, and videos in addition to making calls, while also allowing access to the Internet to view news websites, videos, blogs, and videoconferences. The latest use of telephone technology by local and network news agencies is the transmission of video and audio via cellular-based

systems such as LiveU and Dejero. This technology will be discussed in detail in a later chapter.

The history of commercial wireless transmission began with the development of wireless radio technology. The British Marconi Company conducted the first industrial wireless transmission in 1899 to communicate with its line of ships at sea from its land-based radio stations (Williams, 2005). Over time, the radio evolved and was introduced to the public through KDKA's first commercial radio broadcast on November 2, 1920, from Frank Conrad's garage in Wilkinsburg, Pennsylvania. Early radio broadcasting was used to disseminate information regarding ongoing and developing stories, for example the sinking of the Titanic on April 15, 1912. The event is unique in radio history because many amateur radio operators on land mistakenly reported false information regarding the sinking, confusing the situation and misleading the public. There is a debate in the scholar community regarding whether the term "radio" is applicable to the Titanic event since the technology at the time was only capable of sending Morse code; it could not send voice messages or send continuous radio signals. However, many scholars and researchers say that the technology used during the Titanic event qualifies as radio transmissions since radio signals were used ("How Amateur Radio Sank the Titanic," 2018).

The radio was also instrumental in reporting the news of the Wall Street crash of 1929. "The radio quickly became the first mass provider of news reports of local and national events such as the crash of the Hindenburg in 1937 in which the recording of Chicago's radio station WLS's reporter Herbert Morrison's on-site report was aired the following day. In addition, scheduled events such as President

Franklin Roosevelt's fireside chats in the 1930s and 1940s are examples of early uses of radio broadcasting (Crowley and Heyer, 1991).

Newsreels

Early versions of nonfiction films called actualités or an actuality film were silent movie shorts depicting true-life events filmed outdoors by brothers Auguste and Louis Lumiere and were shown in Paris on December 28th, 1895 (Barsam, 2002). The combining of audio and moving pictures arrived with the introduction of the newsreel. The novelty of the first movie cameras became a popular method of providing world events, sports, and entertainment to millions of moviegoers (Dooley, 2007). The increased popularity of television caused the death of the newsreel in the 1950s.

Television

Developing television was a worldwide objective. The Germans, the British, the French, and the Americans were all trying to build a successful version of the television in the late nineteenth and the early twentieth centuries (Conway, 2009). Once the electronic television system prevailed over the mechanical system in the mid to late 1920s, the television industry grew quickly. On April 9, 1927, the first long distance broadcast occurred when Secretary of Commerce Herbert Hoover transmitted a signal between Washington, D.C. and New York City (Dooley, 2007). The first license for a television station, W3XK, was issued to Charles Jenkins in 1928. In 1936, the American Telephone and Telegraph Company (AT&T) laid the first coaxial cable lines between New York and Philadelphia to transmit television, telephone, and data signals (Dooley, 2007).

After World War II, NBC started linking television stations together to form a network that promised to broadcast sporting events and coverage of the 1940 presidential election (Conway, 2009). Between 1941 and 1947, CBS developed and introduced a television broadcast news format that is still in use today. The thirty-minute newscast where an anchor sits at a desk to present the news using graphics, maps, still photos, and moving images was developed through trial and error (Conway, 2009). This is an example of the theory of technological momentum that was conceived by Thomas P. Hughes, the technology historian and co-founder of the Society for the History of Technology. He said that once a technology, or in this case a format, becomes entrenched in society, it becomes very difficult to change until a newer form of technology takes its place (Nye, 2006).

In 1948, *CBS TV News* hosted by Douglas Edwards became television's first of many regularly scheduled news shows, establishing a new method of news distribution. By 1963, television surpassed newspapers and magazines as the preferred source for news and information. A 1963 Roper Poll showed 36 percent of Americans found television to be a more reliable source for news, compared to 24 percent who favored print (Dooley, 2007).

Computers

Today, newspaper and television newsrooms are full of digital equipment that has replaced traditional equipment. Tapes, tape recorders, and news wire machines are now distant memories. For many print journalists, the computer became a part of their professional toolset when their typewriter was replaced by a personal computer programmed with a word processor capable of saving articles and research for future

use. In television newsrooms, computerized systems allowed reporters to write scripts and read wire stories (Dooley, 2007) and during the 1980s, a form of journalism known as “computer-assisted reporting” evolved when journalists began to use the Internet, databases, and spreadsheets (Quinn, 2005). Regarding the value of computers in the newsroom during the Persian Gulf War, an unidentified NBC journalist noted that computers allow you to get information to and from people [such as editors, managers, and other producers and reporters] better. Hundreds of people can see it. The use of the computers enabled journalists in the field to reach a large number of coworkers at the same time, opposed to reaching out to coworkers individually; this can reduce the time need to analyze the information and quickly get the updated news to the audience (Dooley, 2007).

Almost everything in a modern television newsroom and production facility is connected to a computer. Computer-based graphics, non-linear video editing systems, store-and-forward server based video retrieval systems, and many types of portable digital transmission technology have streamlined the newsgathering and production processes, enabling television producers to provide their audiences with more on the scene and up-to-date news coverage (Dooley, 2007). For example,

- Producers and reporters write stories on desktop or laptop computers.
- On-air presenters read scripts off Teleprompters that duplicate stories written on computers.
- Remote transmission equipment such as satellites, laptop satellite network transmitters (BGAN), cellular-based transmission systems and routers are controlled through computers.
- Technicians remotely manipulate studio cameras via a computer.

- Computer servers house thousands of news elements for newsrooms throughout the country.

Satellite Vehicles

In 1984, Ray Conover, an engineer for Hubbard Broadcasting known as “Dr. Dish,” designed the first satellite news gathering (SNG) truck. This allowed television stations to cover news events outside the limited transmission range of the conventional microwave vehicles. Local and network producer Joey worked on the first SNG truck called CONUS 1 and says that he was instructed by managers to use the truck as often as possible to justify the cost of the half-million dollar truck in 1984, which is over two and a half million dollars in 2019. “Well, the thing is if you convinced your general manager to buy one of the half-a-million dollar trucks, your mantra is to use it. And even if you didn’t have a big plane crash, every day you were doing something with it” (Joey, personal communication, April 18, 2010). (The \$500,000 cost of the SNG is Joey’s estimate; other individuals and publications have different cost estimates.) The main reason local television news stations built or purchased SNG trucks was to gain a competitive advantage in the market. By utilizing the SNG’s capability to offer live shots from remote locations while increasing the number of events a station could cover was one-way a station could differentiate themselves from the competition in their market (Lacy, Atwater and Powers, 1988). News directors believed that their station could use SNG trucks to cover more of their state, resulting in a higher quality newscast (Brohom, 1985).

ONE-MAN-BAND

Advances in technology have created smaller, cheaper equipment used to collect news elements and simplify video transmission. These developments have led to the increased use of the one-man-band method, also known as personal digital production (PDP), video journalists (VJ), and solo journalists (SJ) among numerous other names. A one-man-band is a reporter who performs many or all of the following tasks: interview subjects, write scripts, shoot video elements, video edit stories, create graphics, and shoot and transmit his or her own live shots. Managers and news directors use one-man-bands to cover more stories, reducing the number of staff needed while lowering operating costs. Some research shows positive aspects of the new technology when applied to the one-man-band concept: “Smaller technology also enables journalists to be less conspicuous when collecting material in tumultuous regions of the world” (Bivens, 2014).

Researcher and former newspaper journalist Peter Martyn surveyed the impact that developments in multimedia publishing have had on the news produced by one-man-bands and determined that multimedia journalism and the use of one-man-bands have expanded journalists’ toolkits and enabled them to cover stories from a greater number of locations (Martyn, 2009).

[The research] finds evidence of degradation of the genre in some, but not all, cases and concludes that since the Pandora’s Box of mojo journalism has been opened, if used judiciously by journalists with sufficient experience, there is some hope that the new modalities may result in responsible journalism enriched with multifaceted storytelling. (Martin, 2009, p. 196)

Moreover, with proper education and training, journalists can use these technologies to improve news coverage (Martyn, 2009).

Universities are teaching journalism students how to use digital gear and construct all facets of story development and production. These skills translate directly to the television job market. As a result, one-man-bands can be a positive addition to newsrooms as news directors add young, fresh people and ideas into news production (Malone, 2009). Malone states that many experienced TV reporters do not embrace the one-man-band method of news production because many object to being distracted from researching and reporting functions by having to drive themselves to a story, shoot the video, and then edit the story--which has traditionally been done by editors at the station. "The main casualty will be the story," says executive director of the American Federation of Television and Radio Artists (AFTRA) John Miller, who represents on-air talent in St. Louis and Kansas City (Malone, 2009, p. 19).

Professor Bivens shows that scholars and journalists believe that the use of the one-man-band method of reporting has not resulted in better storytelling/reporting. She interviewed more than one hundred journalists from eight networks in Canada and the United Kingdom to see how producers used content from one-man-bands in newscasts. Journalists responded that the smaller gear sacrificed quality for speed and negatively affected their time to gather and write news stories (Bivens, 2014).

A majority of journalists who use the one-man-band format and who were interviewed by former journalist Mary Angela Bock said the greatest negative aspect of

this method is that time constraints and stress put on the journalist can result in lower quality news (Bock, 2012). For example, one journalist stated that as a photographer, his strengths are lighting and visual framing and his weaknesses are audio and interviewing. Because he did not have enough time to focus on what he was good at and was instead fulfilling a role that typically was handled by someone else, like a reporter who often does interviews, the overall product suffered (Bock, 2012).

Additionally, digital media experts and professors Angels Phillips, Peter Lee-Wright, and Tamara Witschge (2012) affirm that with each technological innovation, a layer of highly trained staff disappears. In their study of BBC journalists trained to be video journalists, only ten percent were former cameramen and sound technicians with no journalistic training. The authors found this led to conflicts over whether conventional journalistic or technical standards should dominate. "Nowhere are these limitations more evident than in the situations where people attempt to perform two or more attention demanding tasks concurrently" (Phillips, Lee-Wright, & Witschge, 2012, p. 77 citing Watson & Strayer, 2010:479). People cannot multitask without sacrificing the quality of other responsibilities such as interviewing, which may be the most complex and difficult skill needed in journalism (Phillips, Lee-Wright, & Witschge, 2012). The one-man-band method does not allow journalists the time to cross-examine or utilize complex interview techniques. The authors also found cognitive limits to multitasking because proficiency and skill are developed over years of experience and not in the few months of the BBC's one-man-band training (Phillips, Lee-Wright, & Witschge, 2012).

Although former BBC journalist Emma Hemmingway's (2008) ethnographic study of a regional BBC newsroom focuses on how newsroom staffers use technology to perform their jobs is a decade old and from a time when the one-man-band method of producing news was in its infancy, it is still a valuable example of how introducing technology into television newsrooms can influence production methods, news quality, workflow practices, and coworker interactions. Hemmingway uses the Actor Network Theory (ANT), which asserts that both human and non-human actors assume identities according to prevailing strategies of interaction and association. Hemmingway's study of the introduction and development of the one-man-band method shows that many of the newsroom staffers she studied resented being forced to do many different jobs. One director told Hemmingway: "Technology has pushed boundaries and its constantly spreading people thinner; it's squeezing people's time" (Hemmingway, 2008, p. 88).

Both the methods of news production and the resulting news content have changed with the introduction of one-man-bands. Some journalists in Hemmingway's study also found the one-man-band method inflexible because it creates long edit times. However, others said that they preferred the autonomy to create complete stories on their own.

Cost of Producing News

Scholars and news veterans claim that cutting costs by reducing staff is the wrong decision for local news stations. Mary Angela Bock's study focused on journalists working for many different types of media, including local newspapers, the *New York Times*, local television stations, the BBC, the Voice of

America radio network, and several professional photographic workshops (Bock, 2012). Bock concludes that although one-man-bands are a way to save money; the results are not always the high quality, informative stories station managers want or expect. A majority of the newsroom staffers she interviewed said they do not like this method of reporting but have resigned themselves to the fact that this is how news will be produced from now on (Bock, 2012).

Journalism Professor Michael Scully sees this method of production as a dilution of skills and quality:

It's an accountant's dream but an editor's nightmare; accountants love it because you're sending one person out into the field to produce the work of three people; it's an editor's nightmare because the quality of the work is diminished . . . News reporters carry their own video cameras and shoot and edit their own stories. When no photographer or editor is needed, the stations save money. (Malone, 2009)

TECHNOLOGY CONTINUES TO CHANGE JOURNALISM

Professor of journalism studies Martin Conboy argues that the introduction of new technology used in the production of television news often has negative effects on newsgathering and reporting (Conboy, 2014). For example, managers and news directors use expensive microwave and satellite trucks for remote live shots simply to justify their purchase that leads to the overuse of microwave and satellite technology in live reporting and adds little to the understanding of an event. In addition, professional journalists use the newer technology used by one-man-bands in order to match the speed that citizen journalists and bloggers have getting news to their audience (Conboy, 2014). This race to be first is often at the expense of proper analysis, fact checking, and sourcing. “The multiplication of delivery channels for journalism has

not been accompanied by any tangible improvement in the quality or range of news or comment provided. Rather, the opposite is true” (Conboy, 2014, p. 160). He claims the journalist themselves admit, “The increased use of evermore sophisticated technologies has had a negative effect on the quality of news” (Conboy, 2014, p. 161).

In a collection of essays by leading journalism scholars that address how contemporary journalism has wrestled with its changing parameters and its notions of tabloidization, technology, and truthiness that have altered our understanding of journalism, professor of visual communication Julianne Newton (2009) contends, “Technology appears to be changing journalism more for negative effect than positive” (p. 78). Newton, who specializes in visual journalism, continues that human beings have developed biases toward words and print in the understanding of messages while creating practices of intuitiveness and relational thought over thousands of years. In order for technology to have a positive role in journalism, journalists need to embrace and understand how the use of technology frames information differently and changes how people interpret and use information. Once journalists understand how visual media frames information, they can develop new applications of reporting and conveying significant information (Newton, 2009, p.78). Conversely, journalism and new media professor Lokman Tsui (2009) says journalism seems to benefit from technological developments in newsgathering, distribution (i.e., through the Internet and satellite), and exhibition (referring to the World Wide Web, color print, mobile phones), due to the ease of collecting and distributing news content (Tsui, 2009, p. 53). Although the collection of essays is a

decade old, more recent research by Bock, 2012, Conboy, 2014, and the results of the interviews and survey conducted for this research repeat these authors' opinions.

Technology has also created the illusion of quality news. Even though hard news has diminished over the past four decades, innovations in digital technology have greatly enhanced the illusion of authoritativeness and breadth (Epstein, 2011).

This technology presents an impressive gloss when combined with the skilled performances of the correspondents and flawless orchestration of the anchor. Yet behind this mask, network news is still a product manufactured by organizations with economic and political needs. As these requisites have changed, network news operations have become less substantial in their coverage of hard news. (Epstein, 2011)

The reduction in hard news coverage and the impression created by the use of digital technology:

Is not the fault of the producers and newsmen. It proceeds from the change in the ways the organizations for whom they work are regulated by the government, make money for their parent corporations, and respond to competition from other media. (Epstein, 2011)

However, not all research presents the change in either positive or negative terms. Using sixty-two news items such as single stories, complete newscasts and news clips, former radio and television reporter and producer Barbara Alysen (2009) compared the production of Australian television news from two different eras, the 1970s to the 2000s, and found that although the methods may be different due to technological advances, the fundamental practices of newsgathering and reporting did not change significantly. Alysen looked at the impact of daily news routines of (a) production technologies, (b) distribution technologies, (c) economic restraints, and (d) changing audience tastes and expectations (Alysen, 2009). Alysen determined that despite dramatic advancements in technology, both eras of television

news style focused on reporting live from remote locations and the interjection of reporter's opinions. In addition, the edited packages were constructed using the same format: narration combined with video elements and sound bites from interviews.

TASKS

A major theme of my study is how the introduction of new technology into a television journalist's daily routine has increased the number of tasks each journalist is required to perform and how it reduces the amount of time for journalists to engage in data collection, research, writing, and production of local television newscasts. Below I summarize literature that confirms the significance and major degree of the potential impact of multitasking and time spent on additional tasks on local television news production.

Long before the introduction of digital technology and multiple digital media platforms, ethnographer Gaye Tuchman (1973) observed that journalists are spread too thin, which may result in resentful, frustrated news workers. Although Tuchman's conclusion is not recent, the findings are still valid and have been supported by many subsequent research projects.

A study of four local television stations in Portland, Oregon by Carey Higgins-Dobney and Gerald Sussman (2013), both professors of Media, Culture and Society, addresses the labor conditions of producing news and how union-related issues can result in a reduction of quality in programming. These issues include the stress and reaction to "technology-based layoffs, reductions in status (full-time to part-time), reduced real income and benefits for crew, multitasking without commensurate pay, disregard for professional knowledge and experience, and abrupt dismissals of long-

term talent and other employees” (Higgins-Dobney & Sussman, 2013, p. 858). The authors found that the stations added more hours of daily news shows as a cheaper alternative to more expensive syndicated programming. Meanwhile, station managers also decided not to use beat reporters in order to save money. This, in combination with new, cheaper technology, led to staff cuts, which in turn forced newsroom staffers to take on more tasks and thus resulted in less creativity during production, safety issues on the job. The authors question whether the stations’ commitment to public service was set aside in favor of economics. As Higgins-Dobney and Sussman note: “The local TV news business has followed the same trend as other technology-intensive private industries. Increased productivity has come at the expense of workers” (Higgins-Dobney and Sussman, 2013).

The quote from a journalist in the 2008 Phillips and Lee-Wright study of BBC journalists establishes how additional tasks reduce the amount of time producers have to research and write a story:

We [producers] do everything.... We do the research, write the scripts, we work with reporters on the reports, we write we find the pictures, we cut the pictures, we write the headlines, we cut the pictures for the headlines, we write the summaries, cut the pictures for the summaries, we find the guests.... We interview the guest to find out whether they're right, we then send a brief to the presenter.... We booked the taxis, we both the lines, to ensure everything goes on there ... the whole nature of the job is changed. (Phillips, Lee-Wright, and Witschge, 2012, p. 69)

Phillips speaks to the journalism tenet of accuracy. Lacking the proper amount of time to thoroughly research the subject can lessen the value of the journalism profession. “Rigorous fact checking, following up sources and verifying information are the core skills of professional journalists believe set them apart from those whom

they consider to be amateurs” (Phillips, 2012, p. 143). The number of news outlets is increasing due to the lower cost of entry into news production. As a result, news reports are copied and redistributed by media outlets without appropriate fact checking or proper sourcing.

A nationwide survey of reporters and producers in small and medium local television markets by former broadcast journalists and scholars Laura Smith, Andrea Tanner and Sonya Forte Duhe (2007) found that the increased number of convergence-related responsibilities affect daily routines and therefore had negative effects on the quality of their work. The list of tasks includes producing content for multimedia outlets, video editing, and additional writing. They showed that stations with larger staff had better quality reporting because there are more newsroom staffers to perform a larger number of tasks. "Unless more staff is added to handle the additional workload, overall quality of all products will be reduced” (Smith, Tanner & Forte Duhe, 2007, p. 568). The authors asked broadcast journalists about their views of the impact of convergence on quality. “Regarding the impact of convergence on news quality, one-quarter of newsroom staffers ‘agree’ or ‘strongly agree’ that the quality of their own work, (24.9%), as well as the work of their peers (24.2%), was suffering as a result of growing multimedia duties” (Smith, Tanner & Forte Duhe, 2007, p. 563).

Alysen references a survey of news professionals conducted by the Media Entertainment and Arts Alliance, the organization that represents Australian journalists, which found that more than 70 percent of the respondents said their workload had increased due to cuts in newsroom staff. In addition, that remaining

staff was expected to generate additional stories for multiple platforms (Alysen, 2009).

Journalism and technology scholar Kimberly Meltzer states that “the journalistic community’s adaptation to technology is particularly important because it shapes the form that the news product takes and the routines and practices that journalists develop to create that product” (Meltzer, 2010, p. 3). Although television has changed the way news is produced, received, and regarded, the journalistic community has clung to principles and practices from earlier forms of journalism (Meltzer, 2010). Meltzer states that driving factor to the continuance of established principles and practices is because:

The journalistic community has never fully come to terms with the elements that television introduced into the journalist s job, and the community has haggled back and forth over the elements that constitute journalism in the fifty-odd years of the television era. (Meltzer, 2010, p. 3)

Furthermore, new competition, advances in technology, and a changing cultural and political landscape have prolonged the use of older practices over newer ones (Meltzer, 2010). Despite the added pressures, the journalistic culture ensures that set practices and values continued in newsrooms (Avilés, León, Sanders, and Harrison, 2004). Finally, research in additional countries shows that the contemporary use of multimedia projects and processes in news organizations, tend to reproduce existing journalistic practices and culture (Deuze, 2004).

A survey of reporters and producers in small and mid-size television markets regarding the increasing number of work tasks and how those tasks have affected their daily routines found: “For some respondents, even spending ten or fifteen minutes on convergence is lost time that could be devoted to improving journalistic

performance following story leads, polishing writing, conducting research, and checking sources” (Smith, Tanner, & Duhe, 2007).

Each journalist is responsible for more tasks and is required to supply content to multiple multimedia outlets (Quinn, 2005). Although many journalists have made the transition easily, others resist the idea of additional technical tasks. The latter say, “The ability to focus a story is more important than the ability to focus a camera” (Quinn 2005, p. 152). The effects of the changes in daily routines such as additional writing, increased workload, and increased time spent on tasks may work fine for small events or press conferences but for large events, the one important moment may be missed (Quinn, 2005). Multitasking works best when journalists have time to develop, analyze, and synthesis of news elements. Quinn also emphasizes the need for journalists to efficiently turn information to knowledge, thus increasing the quality of news. Unprocessed or poorly processed news defeats and undermines the purpose of journalism, which is to inform the public. The overload of responsibilities that journalists face today greatly reduces the time needed to properly convert information into knowledge and report the day’s events.

For many news providers, these changes in news production translate into more work. Many print reporters and writers not only have to produce stories for the print version of the newspaper, but they are also often responsible for additional stories or rewrites for the online version. Professor of media, culture, and society Gillian Ursell addresses this situation in three United Kingdom news agencies: the BBC, ITN, and Yorkshire Television. Ursell argues that the quality and traditional standards of journalism have lessened and have resulted in a “dumbed down” version

of the British news media not because today's journalists want their work to perform at low standards, but rather because the new technology requires more responsibilities and time from each worker (Ursell, 2001).

The multiskilling or deskilling of newsroom staffers has greatly reduced the number of journalists with specialized tasks (Cottle & Ashton, 1999). Therefore, according to the journalists interviewed, the quality of each job in a newsroom is reduced because each person must perform multiple tasks, including those he or she does not specialize in. Additionally, the requirement to provide content to multimedia outlets can put severe constraints on journalists' ability and creativity, as does the rush to respond first to breaking news, where journalists sometimes sacrifice analysis for speed.

The introduction of computer-based journalism was not the first shift from specialized roles, but rather was another in a long list of multi-skilling changes that have occurred over the centuries (Bromley and O'Malley, 1997). The difference is the shift in multi-skilling that occurred in the 1970s in which the broadcast television industry further defined two distinct groups of news workers: the technician and the editorial. Bromley and O'Malley refer to a mid-1970s report by Professor of Cultural Policy Philip Schlesinger (1987) that found that less than half of the BBC Radio newsroom staff were reporters and special correspondents, also classified as editorial workers. At the same time, 60 percent of television newsroom staff were news gatherers, classified as technicians (Bromley & O'Malley, 1997, p. 337). The difference is attributed to the need for more technicians to produce television news such as lighting technicians, camera operators, and sound technicians. I would also

include directors, technical directors that control the camera and graphics switchers, make-up artists, stage managers, sound technicians, graphics technicians, and many others. The differences between editorial and technician roles are unclear today with the added tasks of shooting, editing, and transmitting content introduction of smaller, cheaper and more portable technology performed by these in editorial positions such as producers and reporters and the additional tasks of writing and reporting performed by photographers and video editors supplying original content to social media platforms.

Bromley and O'Malley state the introduction of new technology in the 1980s and 1990s has created a new paradigm where many technicians are taking more roles on the editorial side of news production, thus blurring the lines between the groups resulting in the de-skilling of journalists. The authors state that the ultimate outcome will be news workers capable of completing many different tasks, both editorial and technical, but say, "None, however, will be journalists as such" (Bromley & O'Malley, 1997, p. 346).

QUALITY

Defining the term quality is fundamental to this research. The literature and results of the research methods suggest that there are many different views regarding the definition of quality, but there are also many shared terms and concepts.

High quality news has five attributes (Belt and Just, 2008):

- Significance: stories should focus on significant events (or hard news).
- Journalistic enterprise: stories should be based on original reporting, such as investigations and interviews with newsmakers.

- Balance: stories should reflect fair and balanced reporting with multiple viewpoints.
- Authoritativeness: the information should come from authoritative sources.
- Community relevance: stories should be relevant to or reported in terms that are relevant to the local community (Belt and Just 2008, p. 196).

However, not all scholars agree with the terms “fair and balance” being a part of the definition of quality. Thirty-year newspaper veteran and former Washington bureau chief of the *New York Times* and former editor of the *Atlanta Journal-Constitution* Bill Kovach along with *Newsweek* and *Los Angeles Times* correspondent and co-founder of the Pew Research Center's Project for Excellence in Journalism Tom Rosenstiel said: “Fairness, for instance, is so subjective a concept that it offered little guidance on how to operate. Balance, on the other hand, was an operational method that was so limited it often distorted the truth” (Kovach & Rosenstiel 2014, p. 10).

They added:

Objectivity was not meant to suggest that journalists were without bias. To the contrary, precisely because journalists could never be objective, their methods had to be. In the recognition that everyone is biased, in other words, the news, like science, should flow from a process for reporting that is defensible, rigorous, and transparent - and this process is even more critical in a networked age. (Kovach and Rosenstiel 2014, p. 10)

Although not a recent study but still relevant, documentary producers and scholars Church Roberts and Sandra Dickson (1984) definition of quality in terms of television news focuses on four factors: “The kinds of stories in news programs, the appeal or credibility of newscasters and newscasts, the accuracy of news reporting, and

the degree to which a station's selection of news stories coincides with the audience's preferences for news” (Roberts & Dickson, 1984, p. 392). Quality is defined by stressing the basics, “A newscast should reflect its entire community, cover a broad range of topics, focus on the significant aspects of stories, be locally relevant, balance stories with multiple points of view, and use authoritative sources” (Rosenstiel, Gottlieb, & Brandy, 2000). Kovach and Rosenstiel define quality as having several dimensions:

Journalism’s first obligation is to the truth. Its first loyalty is to citizens. Its essence is a discipline of verification. Its practitioners must maintain an independence from those they cover. It must serve as an independent monitor of power. It must provide a forum for public criticism and compromise. It must strive to make the significant interesting and relevant. It must keep the news comprehensive and proportional. Its practitioners must be allowed to exercise their personal conscience. (Kovach & Rosenstiel 2014, p. 9)

Many authors define singular or partial aspects of quality similarly as the ones listed above, including Hofstetter and Dozier (1986); Kovach and Rosenstiel (2014); Epstein (2000); Fenton (2009); Hemmingway (2008); Phillips and Lee-Wright (2012); Heinrich (2011); Quinn (2005); and Scott, Gobetz, and Chanslor (2008). The most common attribute of news quality is that it must serve the public good. “The quality of a democratic society is only as good as the information that citizens have to make informed decisions about public policy and representative government” (Higgins-Dobney & Sussman 2013, p. 459).

Additional aspects of news that define quality noted by scholars include reliability and accountability. “The most important quality it can possess is that it be useable and reliable” (Kovach & Rosenstiel, 2014, p. 50). Barbie Zelizer (2009), a journalism scholar

at the University of Pennsylvania, refers to accountability as checks [accuracy], consequences [penalties for inaccuracy], and truthiness [the quality of seeming to be true according to one's intuition, opinion, or perception without regard to logic, factual evidence, or the like]. Similar conclusions regarding accountability were drawn by Conboy (2014); Lee-Wright, Phillips, and Witschge (2012); Bivens (2014); and Fenton (2009). A few scholars attribute originality in their view on quality including Kovach and Rosenstiel (2014); Ursell (2001); and Scott, Gobetz, and Chanslor (2008). The latter uses the term “story enterprise” (p. 92) instead of originality (Scott, Gobetz, & Chanslor, 2008).

Rosenstiel, Gottlieb, and Brandy (2000) stress the basics: “A newscast should reflect its entire community, cover a broad range of topics, focus on the significant aspects of stories, be locally relevant, balance stories with multiple points of view, and use authoritative sources” (p. 6).

The Drive for Profit Impacts Quality

Journalism’s first obligation is to the truth; its first loyalty is to citizens (Kovach & Rosenstiel, 2014, p. 5). However, because of megacorporation ownership and citizen journalists’ use of new technology as profit drivers and self-promotion, journalism’s primary purpose is not currently being delivered (Kovach & Rosenstiel, 2014). Kovach and Rosenstiel use the examples of America Online acquiring Time Warner, the owner of CNN, *Time* and *Fortune*, and The Walt Disney Company acquiring ABC News as creating potential conflict of interests because “One company had a journalistic mission and the other had none” (Kovach & Rosenstiel, 2014, p. 28). The Walt Disney Company CEO at the time, Michael Eisner, said it

was improper for The Walt Disney Company to cover Disney news related stories (Kovach & Rosenstiel, 2014, p. 28).

Historically, broadcast network news divisions have focused on meeting government public interest requirements in exchange for the use of the public airwaves. That is no longer the case. Even bonuses are tied to profit margins,

[Bonuses are] no longer based simply on the quality of their journalism.

Quality factors often make up half or less of the decision criteria. The bonuses of newsroom executives today are based in large part on how much profit the company makes. (Kovach & Rosenstiel, 2014, p. 52)

Broadcast advertising targets specific audiences, such as the ages of eighteen to forty-nine-year olds who do the bulk of consumer buying. This prioritizing of whom the journalists are working for impacts story selection. “In the name of efficiency and profit margins, we did nothing to help create new generation interested in the news” (Kovach & Rosenstiel, 2014, p. 211).

Communication professors David Scott, Robert Gobetz, and Mike Chanslor (2008) conducted a pilot test of an investment model of a commitment to television news quality comparing the difference in the quality of local television news produced by large corporate owned stations and small, independently owned stations. They quantified quality based on the number of local news stories, the number of reporters used, the number of investigative reports and the amount of self-promotion. The results also equate a larger production budget to a higher quality of news. For example, stations with greater budgets are able to send larger teams to cover news stories. More newsroom staffers are able to gather more information and elements,

which result in greater quality news. Local news is more expensive because they must produce more content compared to large chain-based media outlets stations that produce more generic, non-local stories to share content with sister stations. The more money spent, the higher the quality of news produced. The findings show that the higher use of backpack journalists in order to lower the budget reduces the quality of the news (Scott, Gobetz & Chanslor, 2008).

“In commercial broadcasting, the purpose of the news program is to attract the most or right kind of viewers, for revenues derived from the sale of advertisements which accompany the newscast depend upon audience size and composition” (Roberts & Dickson, 1984, p. 392). Roberts and Dickson studied early evening newscasts from three different network affiliated stations recorded over a five-day period in Mobile, AL and Pensacola, FL. They also administered a questionnaire to 37 selected participants from a vocational school and community college outside the Mobile-Pensacola viewing area that watched a three-minute sample of the newscasts. Roberts and Dickson reported that the participants said that the higher quality newscasts were based on the popularity of the anchor and not the context or content of the story.

“There is a close connection between the economics and the new technologies of news production ... and the reduction of news staff, the declining quality of news, and deteriorating public trust in the television news function” (Higgins-Dobney & Sussman, 2013, p. 859). Focusing on the gap between the quantity of news and the quality of news, the study shows that the integration of new technology caused more multitasking in order to provide content to multiple media outlets. The multitasking

resulted in the reduction of investigative reporting and the lowering of quality in news. Newsroom staffers in the Portland, Oregon media market, where Higgins-Dobney and Sussman's study was conducted, said the integration of technology and the increased number of required tasks has also resulted in layoffs, fewer full-time employees, reduced real income, less commensurate pay, and dismissal of long-term employees. "Increased productivity has come at the expense of workers" (Higgins-Dobney & Sussman, 2013, p. 859).

Spending less money is not the only business model that influences the quality of local television news. Stations have spent enormous amounts of money to purchase the latest technology available to differentiate them from the competition. The satellite newsgathering vehicle is an excellent example of how spending money can also influence the quality of local television news.

SNG trucks built in the early 1980s were extremely expensive. The initial cost of a modestly equipped vehicle during that time was about \$300,000, over \$750,000 in terms of 2019 purchasing power, with a yearly operating budget of \$100,000, over \$250,000 in terms of 2019 purchasing power (Lacy, Atwater & Powers, 1988). In some cases, if an SNG equipped vehicle was purchased at great financial cost to a station, it was used even if it was not necessary. If the news director was able to convince the general manager to spend the money, that news director had to use the SNG to justify the purchase (D. Futrowsky, personal communication, April 18, 2010). However, assignment editors, as those who decide the daily use of technical resources, camera operators, and audio technicians, argued: "That new technology sometimes was showcased to promote the sophistication of the

station's newsgathering effort” (Berkowitz, 1991, p. 250). Tom Rosenstiel, however, says: “Despite all the gimmicks [including the use of SNG vehicles to produce live shots from remote locations] ... the efforts to hook and hold viewers seem to have less and less impact” (Kovach & Rosenstiel 2014, p. 6).

But stations have recently lessened the use of SNG vehicles and have started transmitting news via the Internet or cellular-based units to send video and audio signals. Both methods are cheaper alternatives to SNG vehicles and as long as the feed is uninterrupted and reasonably clear, the change in transmission type has little impact on a viewer’s experience. Additionally, station management is purchasing broadcast quality cameras for under \$10,000 compared to previous generations of cameras costing upwards of \$80,000. Audio gear and lighting instruments can also be purchased for a fraction of the cost compared to prior versions without any degradation of quality.

CONCLUSIONS

Taken cumulatively, the literature shows that the recent introduction of specific digital technology into local television newsrooms and the field have dramatically affected the gathering, production, and transmission of news. Although scholars have pointed to positive aspects of producing news via one-man-bands, some of which include more journalists per station covering news events and lower production costs, the majority of research finds the current uses of technology often have negative effects on the production of local television news. Therefore, the mismanagement of new technology contributes to the decline in the quality of local television news.

CHAPTER 3: METHODOLOGY

The first section of this chapter explains the mixed methods research design (survey, focus group, content analysis, and semi-structured interviews) and the methods used to record and store the data. The next section describes the method for data analysis. This includes the codes and categories used in coding the data, the reason for using an independent coder, and the negotiated agreement method used to refine the codes. The final sections address the design of the four research methods utilized to collect the data and describe the participants in the study. The University of Maryland IRB approved this research.

STUDY DESIGN

The focus of this research developed during informal conversations with two-dozen key informants in Washington, DC during June and July 2012. The informants include newscast producers, package producers, reporters, video editors, and newsroom managers. In the conversations, we discussed the current state of the television news landscape and addressed topics related to the collection, production, and distribution of local, national, and international news content. Many of the informants agree local news programs have changed from an in-depth, newsgathering entity to an aggregate news provider often only reporting generic, and sometimes superficial, news headlines. The journalists believe more news consumption options, which include the Internet, social media networks, phone, and tablet applications (apps), cable systems offering hundreds of channels, 24-hour news

networks and other types of content distribution technologies, led to this change. These conversations were for background use only.

The first component of this study involved a survey of a sample of newscast producers, package producers, reporters, anchors, video editors, news directors, and photographers. The participants work at local broadcast television stations within small to large *Designated Market Area* (DMA) across the country. The number of possible viewers in the market determines the station's DMA ranking. The survey addressed how IP-based store-and-forward technologies and subscription-based news services, which provide news content to a number of different outlets, impact workflow, story coverage quality, and topic diversity of local television news. The survey also addressed the influence new technology has on the roles of local television news journalists. The purpose of this method was to gather a large amount of information while offering the participants an opportunity to provide their thoughts and opinions on a variety of relevant topics. In addition, the survey method offers the opportunity to contact a large number of professionals from different sized DMA stations in a variety of geographic locations within a practical timeframe at a reasonable cost. The complete collection of survey questions is located in Appendix II.

The second component of this study is a focus group in Washington, DC with five news professionals who have held many positions in local news, including reporters, producers, anchors, video editors, photographers, and assignment managers. The purpose of the focus group was to create an open forum to discuss

and debate the present state of the news industry, in terms of the collection, production, and distribution of news content via various delivery platforms.

The third component of this study is a content analysis of 60 half-hour local newscasts from 60 U.S. cities. A map of the United States, shown in Appendix V, shows the diversity of the stations' locations. I compared the amount of locally produced content to content retrieved from IP-based news services, including those that are network-affiliated and subscription-based, in order to explore whether stations in different sized markets, different regions of the United States (map located in Appendix XIV), and different newscast dayparts (defined as specific time periods during the broadcast day) use equal amounts of locally produced news content in their newscasts. The goal was to discover if the amount of locally generated content differed from the content offered by news services. The complete results of the content analysis are located in Appendix VI.

The fourth component of this study involves semi-structured interviews with a variety of news professionals, including ones from local ABC, CBS, FOX, and NBC affiliated stations, online journalists, digital librarians, and technology experts. The interview method offers the greatest opportunity to get in-depth information directly from those who use the content retrieved via IP-based store-and-forward technologies, and subscription-based news services, in local newscasts.

The names of the participants in the interview and focus group components have been changed to protect anonymity (Appendix IV).

MATERIALS

I recorded the focus group and interviews with an iPhone and, for backup purposes, with a digital voice recorder. I stored the entire collection of research material on my personal computer and a backup external hard-drive. The data may be used in future research with the participants' permission. I will destroy all other research materials one year after the completion of this dissertation.

ANALYSIS OF DATA

The data determined my method of analysis (the codes and categories) (Lindlof and Taylor, 2002). Each set of data improved subsequent data collection.

I created the initial set of 74 codes after listing all the terms and phrases I thought were applicable to the research. I then presented the initial set of codes for review to five colleagues at FOX News, each with at least ten years of experience as a producer, reporter, anchor, photographer, and/or editor in local television news. I used the suggestions from the five colleagues, both written and verbal, to reduce the number of codes from 74 codes to the final set of 64 codes (Appendix III). This set of codes includes a descriptive code and definition to explain the context in which the descriptive code word or phrase is used (Campbell, Quincy, Osserman & Pedersen, 2013). For example:

Quality	<i>A degree or grade of excellence or worth. This study includes the participant's own definition of quality.</i>
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To refine the codes and categories, a coworker with an equal amount of knowledge and experience in television news direction and production acted as an

independent coder. Before coding, we discussed the codes and definitions to ensure a similar interpretation. The independent coder and I individually coded a sample of five interviews. The independent coder and I agreed 72 percent of the time on codes. I then used the negotiated agreement method to review the results with the independent coder to refine the codes and definitions in order to improve the agreement between coders (Campbell, Quincy, Osserman, & Pedersen, 2012). The new percentage of agreement was 83 percent. I used a form of triangulation, having more than one coder to develop the first working set of codes and definitions, as a method for promoting a better understanding of data (Denzin, 1970).

Once I determined the set of codes to be used in the research, I searched for themes in the data. For example, I combined the codes “Twitter”, “Facebook”, and “Instagram” into a single theme called “Social Media.” Using these themes, I reread the transcriptions of the interviews and focus group and developed my analysis of the data.

After the focus group and each semi-structured interview, I used a data classification technique proposed by Raymond Gorden (1998) to organize the data. Specifically, I classified all significant information by highlighting each relevant word or phrase. Next, I assigned each word or phrase an address, a number and letter identifying the information’s specific location in the transcript (Gorden, 1998). I assigned each one a predetermined symbol so every word or phrase could be counted and classified for analysis. Throughout the study, I reviewed the codes and definitions, made additions and subtractions, and/or made semantic changes when necessary. The systematic classification of data allowed me to summarize a large

number of interviews on the same topic by showing the frequency of each type of information. It also created a locating index in order to quickly find similar topics of information (Gorden, 1998).

FOCUS GROUP

The journalists in the focus group are current or former coworkers of mine working at the time the focus group met in Washington, DC. The group was small enough to give each broadcast journalist enough time to express their opinions but still large enough to provide a diversity of opinions. The journalists either held at the time of the focus group or previously held one or more of the following job titles: local television newscast show producer, package producer, reporter, anchor, video editor, photographer, and assignment editor at local ABC, CBS, FOX, and/or NBC affiliated stations in different sized DMA markets from various geographical regions in the United States. I conducted the focus group in a conference room in downtown Washington, DC on May 29, 2015. I chose Washington, DC because of its proximity to my job location. The session lasted 60 minutes. I recorded the focus group session on two recording devices, one of which I used to later transcribe the audio.

At the onset of the focus group, I welcomed the participants and introduced them to one another. I then explained the study's purpose and the specific aims of the focus group. After the focus group members discussed the various questions, each participant had an opportunity to provide further input. They also received an explanation as to how the data will be used in the study. The focus group session included 23 predetermined, open-ended questions and follow-up questions.

Examples of the questions I asked include: How has a producer's workflow changed

since the introduction of IP-based content delivery systems? What are the overall positive and negative aspects of this technology? How has digital new service content affected the quality of your news programs? The group also addressed any questions and comments that arose organically during the session.

One advantage of focus groups is that they are socially oriented, giving the moderator the flexibility to take the discussion in different directions. Another advantage is how they exploit the group effect when people are stimulated by the ideas and experiences of others. Complementary interactions also occur when group members agree on and develop a view someone expresses (Lindlof & Taylor, 2002).

Potential limitations of a focus group include group members exaggerating their experience and a lack of a variety of job responsibilities. During the focus group, one or more participant may dominate the conversation, which inhibits other participants from interjecting their ideas and opinions. In addition, an argumentative interaction may occur when views clash, which may also disrupt the group discussion (Lindlof & Taylor, 2002). Another limitation may be groupthink because participants could provide responses in a focus group that are different from those they would provide if interviewed individually (Lindlof & Taylor, 2002). However, my familiarity with the participants and their backgrounds prevented, I think, any misrepresentations of work history and job responsibility. The participants were also polite and respectful of one another, resulting in no disruptive or inappropriate conflicts.

SURVEY METHOD

Between March 14, 2014 and May 15, 2014, I sent a hyperlink to the survey, created on www.qualtrics.com, to 20 personal contacts. They, in turn, sent the hyperlink to 30 referrals. The survey participants included show producers, package producers, line producers, field producers, reporters, anchors, writers, video editors, camera operators, technicians, news directors, and general managers. All of the participants were current or former news workers at local ABC, CBS, FOX, and NBC network-affiliated stations in different sized DMAs throughout the United States.

Of the 50 people contacted, 33 fully completed the survey and eight partially completed the survey. I analyzed 41 surveys, including those partially completed because their answers were still relevant. The response rate was 82 percent. I believe my personal relationships with the participants helped achieve this high response rate. Between April 9, 2014 and April 15, 2014, I also sent 72 cold emails containing an explanation of the research and a link to the survey to news directors from local network-affiliated stations in different sized markets (Appendix I). I found their contact information on www.newsblues.com (Retrieved April 01, 2014). The email requests resulted in two usable completed surveys for a response rate of 3 percent. I received one email explaining the refusal: “Sorry, Jason, I’m going to take a pass on this. Slammed here” (April 10, 2014). I believe the news directors may have been apprehensive about responding to unsolicited from someone they did not know, explaining the low response rate.

I sent those participating a hyperlink to the survey, which was active from March 14, 2014 to July 26, 2014. When the participants clicked on the hyperlink, it directed them to a website with information regarding the study, including a consent form and an explanation of their rights and responsibilities. Once the subject agreed to take the survey by clicking the appropriate statements, the survey took approximately ten minutes to complete. Once finished, the participants could leave comments.

The questions in the survey focused on the specific and overall effects IP-based store-and-forward technology and network-affiliated and subscription-based news services have on the collection, distribution, and management of content. The survey also addressed the producers' roles in creating a newscast, the overall news production process, and the final product's quality and diversity. Lastly, I gathered demographic information such as gender, age, and work history.

The survey employed several structures, including statements using the Likert Scale, multiple-choice questions, open-ended questions, and questions that allow for multiple answers. Some of the potential challenges in conducting this survey included a disproportionate response rate from workers with technical roles over producers with editorial roles. This challenge was not an issue because 66 percent of the participants represent editorial positions such as producer, writer, or reporter. Only 14 percent of the participants have technical roles such as video editors, camera operators, and engineers. The final group of participants is in management. Another challenge was finding participants with a sufficient amount of work experience. Fortunately, over 25 percent of the participants have more than 25 years of

experience, 34 percent have more than 10 and less than 20 years of experience and the remaining participants have between one year and 10 years' experience.

There are an unbalanced number of responses from participants working at stations in different geographical locations. The largest group representing 42 percent of participants reside in the South region. This is followed by 19 percent residing in the mid-Atlantic region. The northeast, mid-west, west, southwest and other regions each represent less than 10 percent of the participants. There are no participants from the mountain region. In addition, the challenge was to include a balanced group of participants from different sized DMA markets. Just over half of the participants represent the #26 to #100 sized markets while 46 percent represent the #1 to #25 sized markets. Only 3 percent represent the #101 to #210 markets. Although there is a disparity of participants from the south region and low representation of participants from the smallest DMA markets, I do not believe this invalidates any of the results.

Finally, nearly half of the survey respondents are from FOX affiliated stations and two-thirds of the respondents are female. I propose that the staff working at the FOX News Network is representative of all staff working in television news regardless of which network they work for or whether it is at the local or national level. This is because they share similar work environments, have access to similar technology, often have a history working for different and multiple networks, and have similar educational backgrounds (degrees in journalism). I did not ask participants about political affiliation or ideological position, but I have no reason to expect that such factors would affect the results of this study.

INTERVIEWS

Eleven participants were interviewed for this study. They included news professionals currently working or have previously worked at network-affiliated stations (ABC, CBS, FOX and/or NBC) in local television markets. They also include those employed by national cable news networks, and network affiliate and/or subscription news services. The amount of work experience of the journalists interviewed range from six to thirty-three years.

The participants were chosen based on their employment position, work experience, and knowledge of material relevant to this study. I contacted each participant by email, phone, or in person and scheduled time with each individual who agreed to take part in the study.

The local television journalists I interviewed are important to the study because they are primarily decision makers regarding news content and the overall structure of local newscasts. They understand the role technology plays in how media content is received, stored, transmitted, and utilized in local newscasts, as well as its impact on the quality and structure of local television news.

The interviewees working for network affiliate and subscription news services are significant because they determine the content distributed to the local affiliates analyzed in this study.

The interviews were conducted between July 15, 2015 and October 12, 2015. I conducted all but four of the interviews in person. I interviewed the remaining four people in California, Texas, Illinois, and Virginia over the phone. I recorded each

interview on two devices and stored the data on my personal computer and a backup external hard drive.

Each of these semi-structured interviews lasted between 15 and 40 minutes. The length depended on the interviewee's available time and ability to expand on relevant topics. I began the interviews with 26 to 67 predetermined questions. The number of predetermined questions depended on the interviewee's area of expertise. Different sets of predetermined questions were asked of 1) news workers – “assignment editors,” “reporters,” “anchors,” and “management,” 2) “producers” and 3) technicians – “video editors,” “engineers,” and “photographers.” Follow-up questions to the group and questions in unexpected areas of inquiry that arose organically were also entertained. Because of the large number of participating interviewees and my knowledge of the industry after many years of experience, I was able to minimize the likelihood that I would not have roughly equal numbers of participants from each area of expertise. I am confident that participants did not misrepresent their primary work duties or the amount of influence they have on their outlet's decision-making processes.

CONTENT ANALYSIS

Using the ANOVA test method I determined that the results of the content analysis are not statistically significant (Appendix XVIII). I propose that the lack of significance is because the percentages of locally produced and news service content broadcast by the 60 local news stations may have been by chance and does not prove that local stations broadcast more content than news service content. Specifically, small DMA stations broadcast more local content than large DMA stations during the

week and less during the weekend. The results however do seem intuitively meaningful. According to my interpretations, they offer a reasonable scenario. The lack of statistical significance can be attributed to the small sample size of newscasts analyzed. This research does present a baseline for future study regarding the use of locally produced content compared to content provide by IP based news services.

I did a quantitative analysis of 60 half-hour long newscasts produced by local network-affiliated stations in 60 different DMA throughout the United States (Appendix IX). Each newscast streamed online via affiliate websites and included 33 weekday newscasts and 27 weekend newscasts. The individual station for the weekday and weekend results are located in Appendix VII and the aggregate results are located in Appendix VIII. The highest market station in this study is FOX affiliate WNYW in New York City, which ranks number one with 7,442,270 TV homes (lyonspr, 2017). The smallest market station in this study is an ABC affiliate KAVU in Victoria, TX ranked number 203 with 32,440 TV homes (lyonspr, 2017). The newscasts are further categorized into four airtime groups: AM - 5:00 a.m. through 8:00 a.m., NOON - 12:00 p.m. through 1:00 p.m., EVENING - 5:00 p.m. through 7:00 p.m., and LATE NIGHT - 9:00 p.m. through 12:00 a.m. All airtimes are local. The categories are based on the concept of dayparting, which separates the 24-hour television schedule into specific time groups based on demographics and target audiences.

The newscast collections occurred over a ten-week period from March 17, 2015 to May 24, 2015 and were analyzed to determine the amount of locally produced content compared to content retrieved from IP-based news services, including network-affiliated and subscription-based news services. All newscasts

were watched either live or On Demand via the affiliates' websites and on the day of original broadcast.

Before analyzing the data, I considered how to define a few key terms: news, news element, and newsworthy. I used the Merriam-Webster definition of *news* as “A report of recent events” or “Previously unknown information” (Retrieved on August 22, 2015).

A news element in this study is defined as any part of the newscast with an independent and clear purpose, for example, a full news story, a live shot, or an anchor reading a story over video. This does not include segments such as teases previewing an upcoming story, non-emergency weather reports, and entertaining stories at the end of a newscast.

Defining whether a news element is newsworthy or not, can be subjective. Books that define newsworthiness include Harcup and O'Neill's *What is News* (2001), Shoemaker and Reese's *Mediating the Message: Theories of Influence on Mass Media Content* (2014) and Galtung and Ruge's *The Presentation of the Congo, Cuba, and Cyprus Crises in Four Norwegian Newspapers* (1965).

Tony Harcup and Deirdre O'Neill (2001) say that newsworthiness refers to news of the power elite (both persons and institutions), good news and bad news (e.g., rescues and cures), and follow-up stories; it has magnitude and relevance. Shoemaker and Reese (2014) require a news element to have prominence, human interest (emotion-provoking stories including celebrity/political gossip), conflict, oddity/unusual, timeliness, and proximity. Finally, Galtung and Ruge (1965) added a consideration of frequency (i.e., specific occurrence rather than a long-term trend),

threshold (events should reach a certain level of intensity to be noticed, and the more intense, the more likely the event to become news), unambiguity, meaningfulness, consonance (fitting expectations), unexpectedness, continuity (follow-up stories), and reference to elite people.

All three studies guided me in articulating the newsworthiness criteria for my content analysis. The refined list included stories with conflict, magnitude, power elite, prominence, proximity, relevance, and timeliness. Given my experience in local news and local newsworthiness, I also added the criteria of local impact and immediacy.

Even if a news element is defined as news, it does not necessarily make it newsworthy. The following examples may be considered news by definition but not newsworthy as defined in this study: a neighborhood woman turning 100 years old, video of a skateboarder breaking his wrist after falling off of a rail, and coverage of a waterskiing squirrel. These human interest and feature types of stories were offered as news but are not newsworthy for the purposes of this content analysis. Other news stories not considered news elements in this study were teases, sports, weather, traffic, pet adoptions, and entertainment segments such as those featuring cooking and product demonstrations. An exception occurred when the story had a local or regional impact on the larger community, for example, a local or regional university playing in the NCAA March Madness men's basketball tournament and flooding in the southwest region of the United States.

The next step was determining whether a news element was generated locally or if it was provided by a news service. Along with the definition and common

factors listed above, I used my background in local news and at a network national news service to determine the origin of each news element. The only content I found difficult to determine was regional news. Often, news directors will send a crew to a story outside their immediate viewing area if it has a high impact on their viewers.

During each of the newscasts, I timed (noting its start and completion times) and recorded the news elements in a notebook. After reviewing the data from a newscast, I entered the duration of the news elements determined to be newsworthy into an Excel spreadsheet. I then categorized those news elements-into either the “locally generated” or “news service generated” columns.

TECHNOLOGY

I chose to research these types of technology because they are the most commonly used systems in the production, transmission, and distribution of local news content. The only major technology created specifically for television is cellular based systems used to transmit video and audio content via phone towers and repeaters to receivers at local stations and network bureaus to broadcast live from remote locations. The remainder of the technology was created for purposes other than television and was repurposed for the collection, production, and distribution of broadcast television news.

CHAPTER 4: FINDINGS

Chapter 4 presents the findings of the research regarding the relevant topics of the dissertation including the technology used in the production of local television news, the use of locally generated news content compared to network-affiliated and subscription news service provided content, the change in the roles that journalists have in the news production process, and the quality of the news produced. In addition, this chapter addresses the research questions in conjunction with relevant literature while also looking at the limitations of this study. The methods are a online survey of local television news journalists, a focus group of local television news journalists conducted in Washington, DC, interviews with local television news journalists that hold a variety of job titles, roles, and responsibilities at local television stations, and content analysis of multiple local television newscasts at stations from various dayparts in diverse sized designated market area (DMA) across the United States.

Journalists participating in the focus group, the interviews, and the survey largely agree that content from network affiliates and syndicated news services delivered via store-and-forward technology improve local television news workflow and made daily production more efficient and the resulting reporting more effective.

Findings from these three research methods also indicate that even though the study's participants reported spending more time on editorial tasks compared to technical ones in their roles as producers and reporters, the time spent on technical tasks such as searching file servers for video, editing video, and providing original content such as pictures and video to online websites and other types of social media is increasing.

The majority of survey respondents, interviewees, and focus group participants agreed that newscast quality is declining and the contributing factors most often cited are the lack of time journalists have to complete necessary aspects of producing news and the increasing number of tasks added to their list of responsibilities. Writer, web news editor, reporter and researcher Madison states,

People in newsrooms are trying to do more with less, that's a complaint you hear all across the board, and when you try to do more with less, that leaves room for tons of mistakes, less quality, there is no time being taken on stories and analysis. (Madison, personal communication, September 17, 2016)

Having to supply original content to multiple media platforms such as Twitter, Facebook, and the station's website also reduces the amount of time reporters and producers have to perform traditional responsibilities, which include researching, interviewing, and the writing and rewriting of their copy. Journalists also pointed out that the use of social media platforms are not always about providing news but are often used as a marketing tool. Photographer and video editor Joseph says,

I absolutely believe that all this technology has contributed to the decline of quality in local news. If you take somebody like a producer that's got to do twenty million things or a reporter that's got to do their story, they've got to Tweet, they've got into something for Facebook, they've got to, it becomes more about getting your name out there than it is about the story. It used to be that the story was the most important part of the package and now it seems like the reporters the most important getting marketing and branding the station as opposed to really getting a true story, it's not what we do. It's not storytelling anymore. (Joseph, personal communication, April 2, 2016)

Reporter and producer Daniel says that a mandate put forth by some managers puts even more of a burden on the producers to produce news stories. The example Daniel gives occurred in a local newsroom in Washington, DC.

The new news director . . . came down [into the newsroom to address the reporting staff] and said “I want to see a certain number of tweets out of the reporters every day.” Now it's becoming public relations and trying to gain viewers and so what I'm seeing is a move toward reporters becoming more like personalities. And they're doing a lot less work and it's falling on the producers. (Daniel, personal communication, August 11, 2016)

A minority of journalists said that quality of news has improved due to the immediate access to a vast amount of content available through affiliate and subscription based news services and smaller, more portable, cheaper production gear, and handheld transmission equipment capable of sending video and audio signals from remote locations via cellular technology. Reporter and producer Marleigh stated,

I think local news has improved because the video quality is better, because we can tell stories now from more rural areas where in the past I don't think we really would have gotten out too, you could be live in different places [due to the use of cellular transmission systems]. (Marleigh, personal communication, August 7, 2016)

The results of the content analysis show that during weekday newscasts, smaller DMA stations produce considerably more locally generated content than those in larger markets. Conversely, larger DMA stations include more news service content in their newscasts. However, on weekends, the larger DMA stations air more locally generated content than those in midsized and smaller markets.

TECHNOLOGY

A significant majority of the survey's respondents, 84 percent, either "agree" or "strongly agree" that introducing newer technology into local television news stations, including digital servers, new recording formats, new editing software, and new camera formats, has a significant impact on production and programming.

Store-and-Forward Technology

Results from the survey show that the introduction of technology such as store-and-forward systems into local television newsrooms has had a dramatic, positive effect on production. The majority of the participants, 65 percent, found using store-and-forward systems improves the efficiency in performing daily tasks because the content is easily viewed and collected from their desktop computers.

The survey results also show that the process of viewing and retrieving content is more efficient and offers journalists more options of subject matter from a greater number of domestic and international locations. With the increasing number of newscasts covering more hours of local broadcasting, participants say that content from the news services, such as complete packages and a variety of raw material, makes filling the newscast with content easier.

Each survey respondent said they use at least one of the two major store-and-forward systems, Bitcentral and/or Extreme Reach (formerly Pathfire), is part of his or her daily routine. The survey participants are certain that these systems can add efficiency to the newsgathering process and improve a station's ability to report news. For example, reporters, editors, and producers can use store-and-forward technology to search through thousands of video and audio elements and then

download only the clips they need directly onto hard drives. This is more efficient than the more traditional method of waiting for scheduled tape feeds. These systems can also provide stations with access to more story elements, which could lead to more thorough and effective reporting.

Nearly one-third of the respondents, 29 percent, said store-and-forward technology helps plan news programming. For example, early morning newscasts often use news service content that includes video clips, sound bites, and complete news packages directly downloaded from the servers on demand to help fill the hours when little, if any, news is happening. More than one-third of the respondents, 38 percent, said store-and-forward technology has improved the quality of their work because it provides them with more content. Thirty-three percent of the respondents were neutral in their response and less than ten percent of the respondents replied that the use of store-and-forward technology has not improved the quality of their work.

The only negative written response from the survey is from a producer working at a #1 to #25 station DMA FOX affiliate with more than ten years' experience addressing the negatives aspects of store-and-forward technology:

Video is often difficult to find because it is ingested rapidly and with little relevant metadata, which makes it difficult to find later . . . All the video is there, but good luck finding it. I think we are in a video storage technology purgatory. In theory, what we have is better than what we've had before. But in reality, the company hasn't yet figured out a way to make it user-friendly.

In conclusion, the survey shows that local news production efficiency increases with the use of store-and-forward and IP-based technology to view, record, and distribute affiliate and syndicated news service content. The nearly instant access to a varied and large amount of content means staffers no longer have to wait

for new content to be accessed on satellite news feeds. They also said this access makes it easier to produce more local news broadcast hours because the news services provide content options such as complete packages and raw material. However, even with greater access to a wide variety of content, participants in the focus group felt that news service technology has had a considerable impact on the production of local news coverage. As one participant stated:

When [my station] switched to the service-based [method], my job as a producer got way more complicated because I wasn't just sitting there adding a line, writing story, creating the banner, [or] creating the Chyrons. Many producers are also required to supply content to social media platforms [and] write a quick thing for the website. (Marie, focus group, November 25, 2015)

The survey data shows that network-affiliated and syndicated news service content delivered via store-and-forward technology has improved local television news workflow and made daily production more efficient and effective. However, it remains unclear what effect news services have on content diversity, production workflow, story selection, and newscast structure.

More than half of the survey respondents said that using content from these news services improves the quality of their work due to the fast access to a large variety of content. However, one-third of the participants agree that store and forward technology has negatively affected the quality and diversity of their work due to the reduced need to shoot and report original news content. The results imply that news services have changed how newscasts are structured and their content influences story selection more often than editorial factors.

The results of the survey regarding the impact store-and-forward technology has on story selection compared to editorial factors are not clear. Of the thirty-four

respondents, 26 percent agree with the statement “store and forward technology (e.g. Bitcentral, iPump, Pathfire) has influenced the story selection more often than editorial factors” while 15 percent of the respondents disagree with the statement. Half of the respondents answered, “neither agree nor disagree.” The remaining responses stated that six percent “strongly disagree” and three percent “strongly agree.”

Network-Affiliated and Subscription News Services

This section focuses on the actual content delivered by store-and-forward technology, not the technology itself. News services provide content including local, national, and international stories, investigative pieces, and stories produced by beat reports, such as health, government, and entertainment. They also provide live feeds and unedited raw video of events, and other news coverage. Overall, slightly more than half of the respondents, 52 percent, regardless of job title or position, said they “agree” or “strongly agree” that content from network-affiliated and syndicated news services improves the quality of their work. Thirty-six percent chose “neither agree nor disagree” and 12 percent chose “disagree” regarding news services role in the improvement to the quality of their work. Most of the respondents, 59 percent, also agree that the content provided by network-affiliated and syndicated news services has improved their efficiency and effectiveness in completing daily job tasks because of easy access to a wide variety of material.

As an aggregate source of news elements and complete packages, IP-based news services have dramatically changed the production methods of local television

news. According to the newsroom staffers interviewed, there are far more positive aspects of news services than negative ones. The advantages include access to large amounts of content available for download from a desktop computer or routing system and lower expense when hiring crews to cover local news.

In addition, journalists are able to do more work because news service libraries also provide access to additional video like location establishing shots and archival footage. For example, in addition to soundbites from a presidential policy speech on oil drilling, the news service will also include video of the president arriving at the event and archival footage of oilrigs. This material, known as b-roll, airs in the portions of the report where an anchor or reporter is speaking to better explain the story. This saves time because without it, journalists would have to shoot their own supplemental material, for example, driving to an oil field to gather their own video.

Content sharing agreements among stations in the same and different DMAs enable local stations to receive content from other local stations by downloading material uploaded by stations to news service servers.

The negative aspects include 25 percent of the survey respondents stating that using news services increase their workload and 75 percent of the survey respondents saying that news service content often replaces locally generated content, sometimes for the worse because it doesn't differentiate them from the competition and can negatively influence story selection.

This study illustrates that most producers agree that network-affiliated and syndicated news service content delivered via store-and-forward technology make daily production of local television news more efficient and effective. When asked if

a large amount of content from news services delivered by store-and-forward technology made performing the jobs more efficient, 73 percent of the thirty-three journalists responded chose “strongly agree” or “agree.” Only nine percent “disagreed.” One of the respondents that disagreed, a FOX affiliate producer with 10-20 years of experience in a #1 to #25 DMA station, pointed out that it may not be the content supplied by the news services that impact the efficiency but the store-and-forward system itself.

The company has not provided our bureau full access to the S&F [store and forward] system. Therefore, all I can do is view low-resolution proxy versions of the video that I need. In order to get high-res air-ready video, I now have to go through a process where I request NY to cut down a clip, book a window with HQ to have the video fed, arrange for the feed on my end and take the video in. This is especially difficult because the original time code for the video changes completely once it's fed to me. This whole process more than doubles the amount of work necessary to bring in simple video clips.

When asked if a large amount of content from news services delivered by store-and-forward technology made performing the jobs more effective, 56 percent of the thirty-three journalists responded chose “strongly agree” or “agree” while 33 percent responded, “neither agree or disagree.” Only nine percent “disagreed”; none of the respondents provided reasons why they disagreed.

Stations are providing shows earlier in the morning so the news services solve a number of issues. “I think technology, especially new services, has made it easier for lighter newscasts like the [4 a.m.] newscasts [and] the early morning news [casts] to exist because you have more options [for story content]” (Paul, personal communication, July 15, 2016). He added that the content provided by the news services relieve the pressure of expecting early morning and late night staff to

produce the quantity of content needed for the newscasts. Video editor John often used the news service content. “We would use a lot of national items I think just to fill [the newscasts]. There wasn't a lot of news in Little Rock” (John, personal communication, August 11, 2016). Another video editor, Tracy, said news service delivery systems such as store-and-forward gives her control over the collection of content, “You don’t have to wait for it to be downloaded by somebody else or look for a tape somewhere that does not actually exist” (Tracy, personal communication, October 30, 2016).

Of the thirty-four producers who responded to the question in the survey of whether “access to a large amount and wide variety of news content from these sources has improved the quality of their work,” 38 percent said that it does while 12 percent stated that it does not. Asked whether access to a large amount and wide variety of news content from these sources has negatively affected the quality of their work, 15 percent of the fourteen respondents said they “strongly agreed” with the question while 50 percent chose “disagree.” Those who answered, “neither agree nor disagree” to the question comprised 36 percent of the responses.

However, negative aspects do exist. Reporter and producer Marleigh said that relying on news service content could make producers lazy, “I think sometimes we rely on wallpaper video from the news service instead of going out and enterprising our own video or own story angle” (Marleigh, personal communication, August 7, 2016). In addition, the metadata regarding content provided by news services may be false. Producer Thomas cited one instance “Where we received video of a tornado that had allegedly touched down somewhere in the midwest [but the news service

sent] a correction on it [later]. It turns out the video was [run backward to show the tornado hitting the ground when in reality, it was leaving the ground]. In addition, the tornado shown turned out to be a different tornado from another region of the country recorded [the year] prior” (Thomas, personal communication, April 2, 2016).

Producer and reporter Paul addressed other concerns:

I think that you're seeing less original news and more recycled news. [Another] downside is you're losing touch with what you're covering. If you're covering a big immigration rally from your desk, sometimes [it's more] valuable to have a sense in person of what's going on rather than through a television screen. (Paul, personal communication, July 15, 2016)

The survey results regarding the impact news services have on story selection compared to editorial factors are also inconclusive. Of the thirty-three respondents, one-third agreed with the statement that “access to a large amount and wide variety of news content from network affiliated news services and/or syndicated news services has influenced story selection” while the same percentage disagreed with the statement. Twenty-seven percent of respondents answered, “neither agree nor disagree.” The remaining responses are three percent each for “strongly disagree” and “strongly agree.” Paul addresses the impact news services have on story selection:

I think technology is, especially new services, has made it easier for lighter newscasts like the four o'clock [AM] newscasts. You have a wider net to cast from and at those hours that's what the producers want and it's made it [early morning newscasts with very few staffers] sustainable. (Paul, personal communication, July 15, 2016)

LOCALLY GENERATED CONTENT OR NEWS SERVICE CONTENT

The content analysis method was used to explore how often local broadcast stations across the United States use locally produced news content in their newscasts compared to content provided by news services. The content is sorted into three categories: DMA size, regions across the country, and dayparts, which are defined as specific periods during the broadcast day.

Results from the content analysis of sixty newscasts from sixty different domestic broadcast stations show that stations in small, medium, and large DMAs use locally produced content and news service content differently. During the Monday through Friday newscasts, the eleven smaller stations aired more local content per newscast compared to the eleven midsize and eleven large DMA stations. The smallest markets aired an average of 1 hour, 50 minutes, and 19 seconds of locally generated content per newscast. Midsize DMA stations aired 1 hour, 28 minutes, and 42 seconds of locally generated content per newscasts while large DMA stations aired an average of 1 hour, 18 minutes, and 6 seconds of locally generated content per newscast. One would think larger stations with more resources would have more crews on the street covering more news events but the results of the content analysis say otherwise. The results are counterintuitive because the stations with the least amount of staff and support generate more local news, which requires more effort. The reason for the variance is most likely the differences in the demographics of the audiences and the region in which the station broadcasts. This topic will be further developed later in the dissertation.

However, during the weekend broadcasts, the nine smaller markets and the nine midsize stations aired less locally generated content than those in large DMAs. The smaller stations aired a total of 1 hour and 14 seconds of locally generated content per newscasts during the weekend compared to 1 hour, 5 minutes and 26 seconds in midsize newscasts and 1 hour, 26 minutes and 10 in larger markets per newscast. The results are expected that smaller stations use news service content more than midsize and large stations is because they have fewer staff on the weekend to generate original content.

News service content, conversely, makes up a higher percentage of large market newscasts than it does in smaller market newscasts during weekdays.

The total amount of news service content in the 11 small market weekday newscasts was 30 minutes and 43 seconds. That is compared to the 11 midsize DMA stations airing 39 minutes and 6 seconds and the 11 large DMA stations airing 54 minutes and 32 seconds of news service content each.

The amount of news service content aired during weekend newscasts at midsize DMA stations is comparable to large DMA stations and only slightly more than small DMA stations.

On the weekend, small DMA stations aired a total of 38 minutes and 44 seconds, midsize DM stations aired 44 minutes and 26 seconds, and large DMA stations aired 43 minutes and 47 seconds worth of news service content.

In order to present a clearer picture of how stations use locally generated content compared to content provided by news services in different DMAs, the amount of each type of content is divided by the total amount of news content in a

newscast. The percentages of each type of content include only the content in the newscasts that qualified as news elements based on the standards defined earlier in the dissertation. Not included are weather segments, chatter between anchors, and lighthearted stories. For example, in #1 to #25 DMA stations, weekday newscasts at all 11 stations aired 2 hours, 12 minutes and 38 seconds of content, with locally generated content totaling 1 hour, 18 minutes and 6 seconds and news service content totaling 54 minutes and 31 seconds. Therefore, on weekdays in large markets, locally generated content made up 59 percent of the news content while news service content made up 41 percent of the news content.

I used the same formula to determine the percentage of both types of content in each DMA for the weekday and weekend categories.

The following chart compares locally generated content to news service content categorized by size of DMA. The percentages show that smaller stations use more locally generated content than larger stations during the week. However, the large DMA stations use the most locally generated content of the three categories during the weekend. The midsize stations and the small stations use almost exactly the same amount of locally generated content in their newscasts.

<u>Weekday Newscasts</u>	<u>Locally Generated Content</u>	<u>News Service Content</u>
DMA 1-25	59%	41%
DMA 26-100	69%	31%
DMA 101-210	78%	22%

<u>Weekend Newscasts</u>	<u>Locally Generated Content</u>	<u>News Service Content</u>
DMA 1-25	66%	34%
DMA 26-100	60%	40%
DMA 101-210	61%	39%

The following chart shows the results of the content analysis comparing locally generated content to news service content, categorized by regions of the United States. The regions are defined as northeast, south, midwest, and west and I used the same formula to determine the percentage of both types of content in each region. The percentages show that local television stations use similar amounts of locally generated content and news service content regardless of geographic location. The results by regions are located in Appendix XV and the aggregate results are located in Appendix XVI. The percentage of differences by regions is located in Appendix XVII.

<u>Region</u>	<u>Locally Generated Content</u>	<u>News Service Content</u>
NORTHEAST	63%	37%
SOUTH	65%	35%
MIDWEST	64%	36%
WEST	63%	37%

The following chart shows the results of the content analysis comparing locally generated content to news service content, categorized by dayparts AM, NOON, EVENING, and LATE NIGHT. Results from the content analysis of newscasts produced by local stations show that depending on the daypart they are in, there is a wide range in the amount of locally produced content used when compared

to news service content. The four dayparts in the study are AM (5 to 8 a.m. local), NOON (12 to 1 p.m. local), EVENING (5 to 7 p.m. local) and LATE NIGHT (9 p.m. through 12 a.m. local) and includes both weekday and weekend newscasts. I used the same formula to determine the percentage of both types of content in each region.

The AM and NOON newscasts aired less locally produced content compared to the other dayparts in the study. The NOON newscast aired the least amount of locally produced content in any of the categories in the analysis. The percentages show that the EVENING and LATE NIGHT newscasts air much less news service content. I would argue that it is because crews have all day to gather material. The AM newscast air slightly less locally generated content than the EVENING and LATE NIGHT because new content occurs overnight from other regions of the United States and from around the world. The NOON newscasts recaps the overnight and the morning news and crews that generally start their shifts in early morning have had little time to gather content.

<u>Dayparts</u>	<u>Locally Generated Content</u>	<u>News Service Content</u>
AM	62%	38%
NOON	58%	52%
EVENING	70%	30%
LATE NIGHT	69%	31%

TASKS

Every journalist interviewed agreed that the increasing number of tasks performed by newsroom staff cuts into the time journalists have for specific aspects of their jobs, including researching, developing story ideas, interviewing, and

writing. The consequence of inadequate time to develop, research, and analyze stories results in shallow, inaccurate, and lower quality reporting. “[Journalists] don't have time to go deep so they give you what's on the surface not necessarily in the important context that you might need” (Paul, personal communication, July 15, 2016). With six years of experience in local news, reporter and former producer Paul added,

I'd rather have more time researching and getting to the bottom of the story. I mean, how many times does a producer just completely rewrite a wire story. But they don't check the facts of the wire story. The wire is not always right when they could easily pick up the phone and call one person in the story or one public official and verify something. (Paul, personal communication, July 15, 2016)

Reporter and producer Marleigh explained that the requirement to supply original content to social media platforms also restricts time to properly produce a story:

You don't have as much time to research a story. You also don't have as much time for the creative process because you're trying to you know make sure you're tweeting where you are and you're Facebooking and doing all of this other stuff. And I think too if you're out at the scene like a shooting or something and your able to wander around talk to neighbors you've got your producer calling saying “hey can you send a picture, I need to get it up on the internet. Hey can you write something up because we need a short article on the web? Hey have you put us on Facebook and can you tweet this out to be checked in on Foursquare?” And it's like you can only do so much so. (Marleigh, personal communication, August 7, 2016)

Marleigh and Paul also point out that the increased speed and efficiency gained by using the latest technology has caused executive producers and news directors to expect more from each individual. Marleigh stated:

Because the technology has made stuff a lot easier, I think a lot more is expected of people. Having [superiors] expecting [results] a lot

quicker, you don't have the time to write a script or to take your time, you know crafting a script or asking questions or doing that kind of stuff because they assume the technology is there and it's so easy to use. (Marleigh, personal communication, August 7, 2016)

Paul added:

You do a lot less writing because there are so many other things you have to do, tweet, you have to update Facebook, you have to write for the web and you have to sometimes cut video and you have to put everything in your rundown. There are a lot of technical things you have to do and you have editorial meetings so you're doing a lot less writing. (Paul, personal communication, July 15, 2016)

Interviewees agreed that these additional tasks take time away from editorial tasks.

Producer Marie explained:

Yes, it constrains your time. So whereas you would have hours to put together a show, [now] the crunch time gets shorter. You don't only create a line and start writing a story but you have to ... find the video, you're having to create the banners that run across now and then you're editing it. It does affect the quality job and the quality of the newscast. (Marie, personal communication, April 2, 2016)

Editorial Tasks and Technical Tasks

Another focus of the survey is on how these technologies influence a journalist's workflow and responsibilities. Results show that reporters and producers continue to spend a majority of their workday on editorial tasks such as writing scripts, editing scripts, selecting and researching stories, structuring newscasts, and providing content for other platforms. They spend the remainder of their time on technical tasks, including downloading and recording content from news services, uploading content to news services, and editing video. Even though local television journalists spend significantly less time on technical tasks compared to editorial tasks, forty-six percent of the producers said performing technical tasks does, in fact,

undermine their ability to complete their editorial duties. It also has a negative effect on the workflow and quality of work.

The survey establishes that the roles of reporters, producers, and technicians are similar regardless of market size or geographic location. In addition to traditional editorial roles such as writer, researcher, and interviewer, the survey also confirms that reporters and producers are routinely performing technical tasks such as shooting, editing, and overseeing the recording and transmission of video elements.

Reporters

All survey respondents briefly described their daily job responsibilities. The results show that respondents with comparable job titles perform similar tasks irrespective of market size and geographic location.

Respondents who are local news reporters all agree that tasks such as pitching and writing stories are important parts of their jobs. For example, one female local FOX affiliate reporter, age 26-35 with 1-5 years of experience in a #26 to #100 DMA, said, “As a reporter, I pitch and develop local news stories every day. I am paired up with a photographer who helps me produce a PKG [package] and usually several VOSOTs [voice-over – sound on tape] for our noon, 5, 6 and 10 p.m. shows.”

Another local FOX affiliate reporter, also with 1-5 years of experience in a #26 to #100 DMA (age not provided), listed daily responsibilities as pitch, set up, and write stories, post information on social media, and write web articles.

Similarly, a male local ABC affiliate reporter, age 36-50 with 10-20 years of experience in a #100 to #210 DMA, said, “As a reporter, [I] pitch, shoot, write, and edit daily packages.”

Reporters said their daily tasks also include shooting video and editing stories. A CBS affiliate reporter, age 36-50 with 10-20 years' experience in a #26 to #100 DMA said he was responsible for "shooting video, writing stories, editing those stories, operating my own live shots."

A FOX affiliate reporter, age 26-35 with 1-5 years' experience in a #26 to #100 DMA, said she "Shot, wrote, edited, and reported on at least one story every day. [I did] all the video and editing myself." Another FOX affiliate reporter, age 36-50 with 10-20 years of experience in a #1 to #25 DMA, said he would "Pitch, shoot, write and edit daily packages."

Producers

One of the focuses of this research is to determine what effects, if any, the additional technical tasks have on the role of a producer. Of the fourteen survey respondents who identified themselves as producers, 64 percent said they spend at least half of their time on editorial tasks such as story selection, structuring newscasts and researching, and writing and editing stories. An additional 21 percent of the respondents said they spend between 25 percent and 50 percent of their time while the remaining 14 percent of the respondents stated that they spend less than a quarter of their time on the same editorial tasks.

Local television producers agreed that pitching and writing stories are important parts of their jobs, but they also list tasks such as overseeing video elements and story selection as equally important. For example, a FOX affiliate producer, age 36-50 with 10-20 years of experience in a #1 to #25 DMA, said his job

includes “story pitches, writing, interviewing, attending press conferences, coordinating reporter lives, and reviewing video and sound.”²

An ABC affiliate producer, age 26-35 with 5-10 years of experience in a #101 to #210 DMA said as a weekday evening newscast writer and producer, she is “responsible for writing, story and video selection, overseeing video and graphics producers, and line production.” Another FOX affiliate producer, over 50 years old with more than 20 years of experience in a #26 to #100 DMA, said she produces a one-hour morning newscast, writes all content for that newscast, and develops the accompanying graphics.

All of the fourteen respondents who identified themselves as producers agreed that they spend less than 50 percent of their time on technical tasks, which include downloading and recording content from news services, uploading content to news services, and editing video. More specifically, 64 percent of producers said they spend less than 25 percent of their time on these types of tasks.

The respondents were asked to identify which of five editorial tasks and four technical tasks were a part of a producer’s daily responsibilities. The editorial tasks listed were writing scripts, edit scripts, story selection, structuring newscasts, and research stories. Of the nine available choices, all fourteen respondents who identified themselves as producers agreed that writing scripts is the most essential responsibility. Nearly all agreed that structuring newscasts and selecting, researching, and editing stories are also part of a producer’s job. The list of technical job responsibilities performed by producers included “download/record content from

² Grammar and punctuation has been edited for readability.

news services,” “upload content to news service(s),” “video edit content, “and “provide content for other platforms: e.g. station's website, Twitter, Facebook, RSS, etc.” For ten percent of producers, “download/record content from news services” was the most mentioned technical task. The tasks that followed were “upload content to news services” at seven percent and “edit video content” at four percent. Only 59 percent described providing content to other platforms as both a technical and editorial job responsibility. The results show that producers consistently perform technical tasks in addition to those that are editorial.

Producers whom I surveyed said that they spend significantly less time on technical tasks compared to time spent on editorial tasks. However, 35 percent of the producers said these tasks do, in fact, undermine their ability to complete their editorial duties. Twenty-nine percent of the respondents also said the technical tasks create time restraints that negatively affect their workflow.

Some of the respondents suggested that the role of a local news producer is changing and expanding to include tasks once considered too technical for the position. On the survey, producers most often, at 36 percent, chose “producers are now responsible for technical tasks that were not required in previous years” from a list of contributing factors that precipitated the changes in their role. The next most chosen answers, both at 18 percent, were “the economy dictates the redefining of the traditional television producer position” and “the need for hybrid editorial/technical producer.”

Regardless of how many years of experience they had, producers had similar insights into the changes. A CBS affiliate producer with more than 20 years of

experience from a #26 to #100 DMA said, “Producers are doing a lot more – creating graphics, producing special content for websites and social media, often shooting and/or editing as well as writing, conducting interviews, etc.” Similarly, another CBS affiliate producer with less than five years of experience in a #26 to #100 DMA, said, “[The] producer role is changing. I feel we are being asked to do more. For example, create our own graphics.”

Based on the survey results, I conclude that the role of local television journalists has changed and a new hybrid editorial/technical role of reporters and producers has emerged. These hybrid journalists are required to perform more daily work tasks, resulting in time diverted away from traditional tasks such as research, analysis, and writing. My research, in combination with existing literature, suggests that this change in roles is a contributing factor in the decline of quality in local television news. This is an indirect result of technology, including store-and-forward systems, IP-based news services, smaller recording and storage devices, and pocket sized transmission gear. While the use of these tools has made the collection and distribution of content more efficient, the speed and ease of this technology have resulted in more tasks being performed by individual journalists while facilitating the use of non-locally generated content instead of producing their own material. In addition, the increased need to supply original content to station websites and multiple social media platforms has also negatively affected the quality of local television news.

The study’s findings show that television producers spend a majority of their time performing editorial tasks, not technical ones. However, the data from the focus

group and the interview methods suggest that the more time producers spend on technical tasks, the lower their quality of work. Results do not clearly show how technical tasks affect content diversity, newscast structure, and story selection.

ONE-MAN-BAND

The overall results regarding the increased use of one-man-bands in local television news production are mixed. The literature and the survey present positive outcomes in the production of local news, such as more crews covering more events and cost savings. However, the different methodologies suggest the negatives outweigh the positives, as demonstrated by the reporters, producers, and technicians interviewed. Reporter and producer Marleigh states,

There's a lot more that's expected of reporters besides just being a storyteller. You don't have that many creative minds being part of the package. So if you have a reporter one-man-banding, you don't have that person who's a photographer and that's their expertise. You don't have that person as an editor and that's their expertise. You're just relying on this reporter who now has to become kind of a jack of all trades in regards to all that and I don't think that you get as good of quality of product then you do when you had more personnel.
(Marleigh, personal communication, August 7, 2016)

The one-man-band method of production also affects how reporters appear on-air during live shots and limit the amount of information they can pass on to the viewer. When the reporter is also the camera operator, it alters how a story is covered. The viewer cannot see a larger or broader view of the situation because the camera needs to remain locked down in a static position for the reporter's on-air report. For example, when covering news events such as a riot or a protest, the reporter is unable to zoom to interesting or relevant action happening on the scene. He or she may also be unable to shoot the event itself because the camera needs to be

in position for a live report. Therefore, the viewer may not receive all of the available information. Video editor Tracy who has 30 years' experience explains, "[The reporter] is stiff. He can't do his little walk and talk thing" (Tracy, personal communication, February 19, 2016). Tracy adds that valuable information is missed because the reporter is unable to show important visual elements happening around him since his camera locked down

QUALITY

The belief that the quality of news is declining is not new. The results of a three year study conducted by the Project for Excellence published in 2000 reveals that local television stations are reducing the news elements that attract viewers including "enterprise, localism, breadth, innovation, and sourcing" in search of higher profit margins. "The amount of enterprise, already shrinking, is withering to almost nothing. The amount of out-of-town feeds and recycled material is growing." According to study of the nearly 4,000 local news stories broadcasted, 36 or 0.9% were investigative pieces. The majority of stories studied during the research period were either feeds or footage aired without an on-scene reporter. Newscasts use "easy gimmicks - eye candy, ratings stunts and hype" (Rosenstiel, Gottlieb, and Brady, 2000).

Using the definition of quality stated in this research that includes the concepts of accuracy, reliability, and community relevance, I will briefly address the pre-television history of quality in journalism. An example of reporting inaccurate facts is the newspaper coverage of the battleship USS Maine sinking in the Havana harbor on February 15th, 1898. The competition to sell newspapers in the New York

City market was furious between Joseph Pulitzer and William Randolph Hearst. The initial report by the colonial government of Cuba concluded that an explosion on ship caused the ship to sink (U.S. Diplomacy and Yellow Journalism, Retrieved 2019). However, Pulitzer and Hearst reported that there was a plot by foreign agents to sink the Maine. The term yellow journalism or yellow press is often used to describe this type of reporting that emphasizes sensationalism over facts.

Additional pre-television examples of inaccurate reporting and even flat out propaganda include the Reformation in the 16th century when the Lutherans and Catholics distributed cartoons depicting the Pope as an agent of the Devil. In addition, newspaper cartoons erroneously depicted the sinking of the Lusitania in 1915 as an attack on a cruise ship and deliberately failed to mention the ship was also used as an arms transport, which was one factor that drew the United States into World War I (Levinson, 2017).

Edward R. Murrow, the renowned war correspondent and CBS Radio broadcaster, voiced his concerns regarding the decline in the quality of broadcast journalism to fellow journalists at a 1958 Radio Television News Director Association (RTDNA) event during his “Wires and Lights in a Box” speech. He criticized media executives for turning broadcast news into “an incompatible combination of show business, advertising, and news” (Murrow, 1958). He further stated that broadcasters should aspire to be leaders and “teach,” “illuminate” and “inspire” the public because otherwise, television would be “nothing but wires and lights in a box” (Murrow, 1958). He said that he was “seized with an abiding fear regarding what these two instruments (radio and television) are doing to our society,

our culture, our heritage,” and that “television in the main is being used to distract, delude, amuse and insulate us” (Murrow, 1958).

Defining the quality of local broadcast television news is an integral part of this study. The focus group participants all agreed that in order to produce quality local television news, journalists must prioritize stories that matter to local audiences and inform the community. Participants also agreed that the overall quality of local television news is declining. For example, referring to consumers of local news, John, a video editor and a 36-year local and national news veteran, said, “I don't think we're getting the information that we need. We're not getting it because the ratings don't hold up. [Local news stations] give the news that brings the ratings up. It's sensationalism” (John, personal communication, August 11, 2016). John equated useful information with quality.

The interviewees agreed on many components of quality as it pertains to television news, including accuracy, originality, and thoroughness. Producer JJ said, “Quality is original material that is shot well and is accurate” (JJ, personal communication, August 13, 2016). Producer and former reporter Daniel stated, “I guess what I would look for is content. Is this report thorough and accurate” (Daniel, personal communication, August 11, 2016). Reporter and producer Paul defined quality as:

When the viewer learns something. It doesn't necessarily have to be new information. But maybe they have a new perspective on something. They've seen a new perspective. They felt something. Maybe it was emotional. And they were interested in something. (Paul, personal communication, July 15, 2016)

A majority of journalists interviewed stated that the requirement to supply additional original stories or a new version of an on-air story to multiple social media platforms has also contributed to the decline of news quality because of the extra time it takes to write and often edit video elements for an online print story. Furthermore, stories are often no longer crafted and are simply a rehash of stories from alternate platforms such as Twitter, Facebook, and other social media providers. Interviewees also stated that additional factors have contributed to the decline of quality of local television news, including the poor sourcing of content, the lack of oversight, and poor fact checking.

The survey asked respondents to define local news quality. Respondents agreed that newscasts of quality need relevant, purposeful, accurate, and objective writing with a focus on community. In addition, respondents agreed that providing stories with useful and valuable information that is also relevant to a specific viewing audience is one component of a quality newscast.

A FOX affiliate news station producer with 10-20 years of experience in a top 25 market wrote, “A quality newscast contains stories I find relevant with writing that is clear, concise and delivered in a straightforward manner. The video should be interesting but also relevant to the story. The editing needs to be tight but natural.” A CBS affiliate news station manager with more than 20 years of experience in a #26 to #100 DMA, described quality newscasts as “Informative, creative, relevant, well told, investigative, [and] enterprising.”

A FOX affiliate news station reporter, age 25-46 with under five years’ experience in a #26 to #100 DMA, wrote: “Quality means a story is accurate, timely,

and interesting both editorially and visually. It is new. It impacts the average person watching – or makes them feel as though the story matters.” Similarly, another FOX affiliate news station producer, age 36-50 with 10-20 years’ experience in a #26 to #100 DMA, wrote that quality news contains “strong stories that produce viewer benefit whether they solve a problem, spur action, or have people talking at the dinner table.”

Another important element that survey respondents link to quality is the size and ability of staff. A FOX affiliate news station assignment editor age 26-35 with 5-10 years’ experience in a top 25 DMA, wrote: “Quality would be having enough resources to cover the news locally instead of depending on content from other stations and networks.” An NBC affiliate station reporter, age 26-35 with 10 to 20 years’ experience from a #26 to #100 DMA, similarly explained: “Quality news is having a staff of respected and professional journalists who take their job seriously. It’s reporting the news objectively and not subjectively.”

Respondents also mentioned writing as a skill that determines the quality of local news. An ABC affiliate station producer, age 26-35 with 5-10 years of work experience in a #26 to #100 DMA, described quality as “Consistently providing the best compelling news that is accompanied by good writing, anchor presentation, and good video and graphics production.” An ABC affiliate news station producer, age 26-35 with 10-20 years of work experience in a top #25 DMA, also referenced writing, and saying news should be “timely, relevant, well written and objective.”

However, a minority of interviewees, two of the eleven, said that certain aspects of quality of local television news have improved in recent years. When

discussing the increased role technology plays in the collection and distribution of news and how this affects quality, writer and producer Madison said, “My gut is that the media and the news may be more colorful and diverse [what actually ends up airing]” (Madison, personal communication, September 17, 2016). Marleigh also commented on improvements in newscast quality:

I think it's improved because of technology. The quality of images is clearly better. We are able to get to more places because of technology and go live from more places. Therefore, giving live stories from more places and interacting with viewers, which I think is an interesting element, has also rather improved the quality. (Marleigh, personal communication, August 7, 2016)

The respondents were asked to identify which of the survey answers improved the quality of local television news. Of the fourteen responses, 43 percent cited “technology - i.e. store and forward, transmission methods, distribution methods, etc.,” and 43 percent the cited “style of news produced” as equally impactful. The “size of the staff” accounted for the remainder of the responses.

Some of the journalists also said that the quality of local television news has improved to advancements in technology including image quality and the ability to quickly broadcast live from more places.

The majority of the journalists interviewed said the primary reason that the quality of local television news is declining is the lack of time they have to complete necessary aspects of producing news and the increasing number of tasks added to their list of responsibilities. Producer Thomas said that the problem in today’s local television news environment is “You don't have the time. And I do think you're sacrificing the quality of that content and journalist part; the questions, making the calls, getting in there and getting your feet wet, so to speak” (Thomas, personal communication, April 2, 2016).

Regarding the role of a producer, Paul said, “Producers don't have time to go deep so they give you what's on the surface, not necessarily in the important context that you might need” (Paul, personal communication, July 15, 2016).

Madison said the lack of time to thoroughly process content and produce news affects the quality of the news (Madison, personal communication, September 17, 2016). She explained, “There is no time being taken on stories and analysis. The analysis is really threadbare.” Additionally, she said that more tasks per person reduce quality because “When you try to do more with us, that leaves room for tons of mistakes, less quality” (Madison, personal communication, September 17, 2016).

The survey results also show that a majority of the respondents, 58 percent, agreed that local newscast quality is declining and within that group, 63 percent described the decline as “dramatic.” Of the participants who stated an opinion about the quality of local television news, the majority agreed that quality is declining.

Although no single reason stands out among their responses, many of the survey respondents agreed on particular areas that contribute to the decline, with “technology” and “style of news produced” at the top of the list. “Staff size” is also mentioned multiple times as a contributing factor.

The respondents were asked to choose one or more of a list of contributing factors that have aided in the decline of quality in local television news. The choices were: “technology - i.e. store and forward, transmission methods, distribution methods, etc.,” “staff size,” “management,” “style of news produced,” and “other.” The other contributing factors written in were: “YouTube and Facebook is a provider” and “inexperienced newsroom personnel.”

Although respondents did not agree on a single reason for the decline, they did agree that multiple factors contributed to the decline. Of the 60 total responses, the “style of news produced,” meaning the format and the types of stories presented in the newscast was the most often cited factor, mentioned by 30 percent of respondents. Followed closely by “staff size,” which was mentioned by 28 percent of respondents, “technology,” which was mentioned by 29 percent of respondents and “management,” which was mentioned by 22 percent of respondents.

Some respondents commented further on the decline of quality in local news. For example, a FOX affiliate station video editor who is over 50 years old and has more than 20 years’ experience at a top #25 DMA station wrote: “There is no quality whatsoever in local news. All newsrooms want are stories that they can turn in a matter of hours and they not intending to do quality work. They want it fast and cheap.” A FOX affiliate news station technician, age 26-50 years old with 10-20 years’ experience in a top #25 DMA, and wrote:

The quality of local news is HIGHLY diluted with too many mentions of social media and YouTube. The quality of video has decreased dramatically over the past 5 years. We will air video, no matter the quality, if it is very pertinent to the immediate situation we are covering.

There are additional contributing factors to the decline of quality. Those include a lack of time to adequately research and analyze data, the softening of content in newscasts, an inadequate amount of staff, a lack of investigative pieces, and the increased need to produce original content for social media platforms are all also contributing to the decline of quality in local television news quality.

The participants also agree that local television news content has become more sensational, covering an increasing amount of entertainment and tabloid driven stories. Regardless of news services and new technology, participants stated that local television news should still be locally driven with locally produced content. However, the results do not clearly explain the effect of management on quality or what role technology, specifically store-and-forward technology.

DIVERSITY IN CONTENT

Survey respondents also answered questions regarding the diversity of local newscast content and whether they have seen changes in the variety of news topics stations cover. Diversity is defined as the amount of variety of topics in a newscast. These topics can include local, national, and international stories, investigative pieces, and reports on topics such as health, government, and entertainment.

When asked directly if “the decline in the diversity of programming content in local television news is dramatic,” four or 44 percent of the respondents, agreed with that statement. Three or one-third of the respondents chose “neither agree nor disagree” as their response while the final two journalists choose “strongly disagree.”

Of the thirty-three survey responses to the question “the diversity of programming content in local television news is,” twelve or 36 percent of the respondents said it is more diverse, nine or 28 percent said the content is less diverse, and twelve or 36 percent reported no change in the diversity of local programming.

When asked to identify “the contributing factor(s) to the improvement in diversity,” sixteen journalists responded. Seven or 44 percent said that ‘technology’ is seen as the largest contributor to the increase of diversity of topics in local

television newscasts. That was followed by three or 19 percent who responded, “staff size” and two or 13 percent who responded, “style of news produced” (they could choose more than one). “Management” and “other” where the participant wrote “text” and “social media” are tied with one or six percent of the responses. The remaining two respondents stated there is “no decline in diversity.”

When asked for “the reason(s) for the decline in diversity of programming content” (again, they could choose more than one if applicable), of the 26 journalists who responded, eight or 31 percent said “style of news produced” is seen as the largest contributor to the decrease of diversity of topics in local television newscasts. “Staff size” and “management” followed with six or 23 percent of the responses each, “technology” with four or 15 percent of the responses and “other/text,” “changes in ownership rules,” “news departments able to produce newscasts for another station in the same market,” and “decline in reporter quality” round out the answers with two or eight percent of the responses. None of the respondents chose “no decline in diversity.”

Of those 14 people responding to a question about whether “access to a large amount and wide variety of news content via store and forward technology (i.e. Bitcentral, iPump, Pathfire) has negatively affected the diversity of programming content in your work,” five or 36 percent of the respondents chose “disagree” or “neither agree nor disagree.” The remaining respondents selected “agree” or “strongly agree,” both choices with two respondents each.

Finally, the results of the survey regarding content diversity, story selection, and the effect of technical tasks on the diversity of content are unclear and not

definitive. The benefits of technology including IP-based news services providing an enormous amount of content to journalists, smaller and cheaper field cameras, and cellular-based transmission systems, are well established. However, using these digital tools also entails costs. Three specific issues mentioned by the interviewees regarding those costs are problems with sourcing content, poor fact checking, and inadequate oversight. The Boston Bombing example addressed in chapter one outline the multiple paths video content can travel before reaching the viewer. Much like the childhood game of telephone, information and metadata are lost in each transition. JJ explained this by saying that journalists often collect information from Internet searches and blogs without vetting the source:

Is it five people that died in the shooting or is it fifteen? No one knows because everyone's reporting different stuff and the news is developing but you've got so many sources that are all different. There [are] as many versions of the story as there are sources. (JJ, personal communication, August 13, 2016)

Not only can it be difficult and sometimes even impossible for journalists to pinpoint the source of the content itself, but determining the accuracy of the information presented in the content can also be troublesome because of the increased use of sharing information without attribution on social platforms. Local television news organizations often require on-air talent and producers to report on content found on platforms such as Facebook, Reddit, Instagram, Twitter, and the station's own website.

Social Media

Social media platforms are also used to provide news and information to viewers, as well as communicating with them, but the lack of oversight in the process

of posting this content can sometimes raise questions of accuracy. Marleigh criticized “The stuff that goes out online or in social media. Sometimes there are no other eyes on it and you're just writing your own thinking. People take that for the news, for fact” (Marleigh, personal communication, August 7, 2016).

Daniel said the main difference between on-air reporting and online reporting is that “Nothing goes on the air that hasn't been looked at by somebody else, but things can get on Twitter all the time . . . because you're just independently doing it” (Daniel, personal communication, August 11, 2016). Producer JJ adds that online reporters also often have less experience and supervision compared to broadcast reporters. “I can walk in here without as much experience and put something directly on the news that may or may not even be correct” (JJ, personal communication, August 13, 2016).

Some reporters and producers said that the requirement to supply original content to multiple media platforms further limits their time to produce news stories to be aired. This obligation also reduces a journalist’s time to research, develop story ideas, interview, and write. Marleigh said, “I think especially as a reporter your tasks are increasing because you're supposed to interact on social media with viewers” (Marleigh, personal communication, August 7, 2016).

Daniel says supplying original content to the station’s social media platforms is not just an obligation to their employers; some journalists supply content for personal reasons (Daniel, personal communication, August 11, 2016).

CHAPTER 5: DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

INTRODUCTION

This chapter discusses the findings of the four research questions on the implementation of emerging technology in local television news production and its impact on newscast quality and news story diversity. The chapter also draws on these findings and discussions to offer implications and recommendations and acknowledges the limitations of the study.

METHODS AND PROCEDURES

The first component of this study is a survey completed by a population of newscast producers, package producers, reporters, anchors, video editors, news directors, and photographers. The survey aimed to gather a large amount of information from a large number of professionals in local broadcast television stations with varying levels of experience from different sized DMAs in a variety of geographic locations within a practical timeframe at a reasonable cost. The survey, which offered participants an opportunity to write down their thoughts or opinions on a variety of topics, explored how introducing IP-based store-and-forward news service technology, specifically those that are affiliate and/or subscription based, impacts workflow and newscast content.

I supplemented the survey with a focus group in Washington, DC consisting of five news professionals who have each held one or more local news positions during their careers, including reporter, producer, anchor, video editor, photographer,

and assignment manager. The purpose of the focus group was to gather news professionals into an open forum to discuss and debate the present state of the news industry and the current methods of collection, production, and distribution of news content via various delivery platforms. I then interviewed a variety of news professionals including those who have worked at local ABC, CBS, FOX, and NBC affiliated stations. The interview method afforded the greatest opportunity to get in-depth information directly from those who have both worked with content retrieved via IP-based store-and-forward technology and have seen firsthand how technology can impact the news production process.

I conducted a content analysis of sixty half-hour local newscasts to determine how much of the newscasts consist of locally produced content compared to news service content. I explored whether stations in different sized DMAs, different regions across the country (Appendix XIII), different network affiliations (Appendix X), different days of broadcast (Appendix XI), and different newscast airtimes (Appendix XII) are using an equal or different amount of locally produced news content in their newscasts.

DISCUSSION OF THE FINDINGS

As discussed in chapter 1 of this dissertation, local television news journalists have an array of technology at their disposal to gather, transmit, and produce daily newscasts. My research shows that the use of IP delivered news service content made the collection and distribution of news content more effective and efficient for producers by facilitating instant access to a vast amount of content while compact cellular based transmission gear, such as LiveU, have enabled live broadcasts from

more places with minimal effort. However, my research also shows that these changes may come at the expense of a journalist's time to focus on traditionally editorial tasks, like researching stories and writing copy. Unlike in the past, the newer technology demands that journalists also focus their attention on technical tasks, like downloading content from servers and shooting their own video, a practice this study shows is increasing. By restricting time for editorial tasks, there is less time for careful story production and reporting, which therefore can potentially decrease newscast quality.

The literature summarized in chapter 2 confirms that news quality can suffer if journalists do not adapt to changes in workload, for example, added technical tasks, when new technology is introduced. Whether it is using smaller, more portable field gear to cover news events or relying heavily on content from news services in their newscasts, journalists recognize that technology is a driving force in the production of local television news and they, therefore, need to modify their workflow accordingly.

What is not in the literature but is instead revealed in my study is the degree to which the producer's role in local television news is trending toward a new hybrid position: producers increasingly must continue to perform traditional tasks while also performing technical ones. The role of field reporter has also changed, but to a greater degree than the literature suggests due to the increased use of the one-man-band newsgathering method. Not only does this method refocus the reporter's attention towards technical tasks instead of editorial ones, it also limits access to coworkers that could provide additional knowledge and expertise. For example, they

may miss the opportunity to collaborate with experienced on-site camera operators, transmission engineers, field technicians, and other producers and reporters.

The limited literature on the role of social media content within the local television news industry suggests online content is rarely reviewed by peers or supervisors, is frequently opinion driven, and often lacks fact checking and sourcing. The limited amount of empirical research that is available supports my findings that smaller DMA stations air more locally generated content than larger DMA stations, based on the demographics of the viewing audience instead of smaller budgets or staff size.

Store-and-Forward Technology and News Services

According to a majority of the focus group participants, store-and-forward technology has improved the quality of local news because it provides instant access to a large quantity of content accessible from a desktop computer. The process of viewing and retrieving content in this manner is more efficient than the older method of searching through tapes of satellite feeds containing the same type of content. The technology also offers journalists more subject matter options because content distribution is not limited to set feed times, which allows access to not only more stories, but also to stories from a greater number of domestic and international news agency partners.

As stations continue to add additional hours of news coverage to their schedules, participants say the abundance of content from these news services, from complete packages to raw and unedited material, makes filling their newscasts with content easier. According to the survey results, this type of technology has had a

dramatic, yet the positive effect on local television news. With the news service technology, content is abundant and easily collected, thus making the production process more efficient and more effective.

While the journalists interviewed recognize that these types of news services have now become an integral part of their workflows and expect that to continue for the foreseeable future, the true value lie in how journalists utilize the news services. If the services are used to expand or improve original reporting, they can enhance the quality of a newscast. However, if they are instead only utilized to save time, money and/or effort, the overall quality of a local newscast can suffer.

Use of Locally Generated Content and News Service Content

According to the journalists I interviewed, locally generated content is still the driving force of local television news. Results of the content analysis show that local television stations broadcasting newscasts Monday through Friday in large DMAs (market numbers 1 through 25) and mid-sized DMAs (market numbers 26 through 100) air a smaller percentage of locally generated content versus content provided by news services when compared to stations that broadcast to the small DMAs (market numbers 101 through 201). However, results also show that local television stations airing newscasts Saturday and Sunday in large DMAs show a greater percentage of locally generated content versus content provided by news services when compared to stations that broadcast to the mid-sized and small DMAs.

The following theories as to why the size of a DMA may impact the type of content favored are based on my experience and the findings of my study, not on published research. One factor for the differing amount of locally generated content

in various market sizes may be the composition of the viewing audiences. Smaller DMA audiences are primarily comprised of populations in rural areas that include a greater number of people who live in the state in which they were born (US Census Bureau, 2016), therefore, the audience may have greater ties to the community and that may generate increased interest in locally generated content. Conversely, a majority of immigrants live in large cities (Passel & Cohn, 2017) so populations in large DMAs have a more demographically diverse audience, who I speculate tend to have a greater interest in national or international news. Research from the Casey School of Public Policy reports “There are stark differences between the two groups. Immigrants account for approximately 4.8 percent of the rural population compared to 16.6 percent of the urban population” (Schaefer & Mattingly, 2016, p. 2). The nonprofit public policy organization The Brookings Institution reports, “In the United States, more than 90 percent of immigrants live in urban areas, American cities and metropolitan areas” (Brandt, 2018).

Another factor is the staff size. Stations in small DMAs have a substantially lower average number of full-time staff at 19.4 compared to large DMAs that average 70.5 full-time staff (RTDNA, 2016). The difference in the weekend results suggests that smaller stations with smaller staff sizes rely more on the news services for content when compared to larger stations because less staff means fewer resources on hand to produce content locally.

Survey Results for Store-And-Forward Technology and News Services

There are few differences in views of the survey respondents regarding how the use of news services, such as those using store-and-forward technology, and the

requirements associated with editorial and technical tasks have on the quality of local television news based on years of experience or gender.

The survey respondents in the mid-Atlantic, the south, and the mid-west regions are the three regions that had higher positive opinions regarding the impact store-and-forward has on the quality of their work when compared to the other regions. All of the regions reported that the quality of local television news is decreasing except the south and the southwest where the survey respondents in those regions said that the quality of local news has improved. The respondents from the mid-Atlantic, south, and midwest described the decline in the quality of news as dramatic. There were no differences between regions regarding the effect that technical tasks or news service content have on the quality of local television news.

The respondents who identified themselves as managers are the only group that said the quality of local television is improving. All of the other categories said that quality was declining. This was the only area where there was a discernable difference in the answers given by the groups regarding quality.

There is only one question in the survey where the 36 to 50-year-old group of respondents stood out from the other age groups. This group is split on whether the quality of news is increasing or decreasing. All of the other groups responded that they believe the quality of local television news is declining.

The first question with differences in responses between the DMA group's addresses whether or not the use of store-and-forward technology improves the quality of their work. A higher percentage of those working in DMAs #26 - #100 agreed to the question more when compared to the responses from the other DMA

groups. The second question asked whether the quality of local television news was improving, declining, or if there was no change. The respondents from the DMAs #1 - #25 had a stronger opinion that the quality is declining when compared to responses from the other groups. These were the only areas where there was a large difference in the answers given by the groups regarding market size.

Tasks

The influence of technology on a journalist's workflow and responsibilities is another focus of the research. The findings from the survey, focus group, and the interviews suggest that the job of reporters and producers is evolving into a hybrid editorial/technical role.

The first instance was concerning the survey question about the amount of experience and/or training they have regarding technical tasks. Among those survey respondents who identified themselves as producers, one third stated they have less than three years of training or experience while all other job groups stated they have more than three years. All of the job title groups reported similar responses on questions regarding the impact the requirements associated with editorial and technical tasks have on the quality of local television news.

The second instance was in reference to the question of whether technical tasks have negatively affected the diversity of the respondents' work. All survey respondents over the age of 50 agreed that it has had a negative effect. All of the age groups reported similar responses on other questions regarding the impact the requirements associated with editorial and technical tasks have on the quality of local television news.

Survey results show that producers continue to spend most of their workday on editorial tasks, such as writing scripts, editing scripts, selecting stories structuring newscasts, researching stories, and providing content for other platforms. But the results also show that even when producers spend considerably less time on technical tasks, including downloading and recording content from news services, uploading content to news services, and editing video, just the addition of them can negatively impact their workflow. Nearly half of the producers said that the technical tasks do, in fact, undermine their ability to complete their editorial tasks, thus negatively affecting the quality of their work. This means that producers and reporters are not focusing on the important aspects of covering a story and could sometimes fail to provide the public with reliable and accurate information relevant to their lives.

The findings from the survey regarding the amount and type of tasks completed by local television news staff showed the survey respondents' years of work experience, geographic location, gender, or market size showed no large differences in views regarding the impact the requirements associated with editorial and technical tasks have on the quality of local television news.

The increased use of the one-man-band method of producing news, in which a reporter is responsible for most of the aspects of field production, also diminishes the quality of local television news in a number of different ways. Those include a lack of time to properly perform multiple tasks and isolation from colleagues who could add insight, information, and alternative points of view to the production of a story.

Therefore, news directors and station managers need to focus more on the types of stories

suitable for the one-man-band method of reporting to improve the quality of the newscasts and less on the economic advantages the method provides.

Regarding technical tasks, results fail to address possible differences in attitudes and skill sets between young journalists that have grown up in a more technological, digital culture when compared to older journalists that were raised in a culture with much fewer changes in technology. The younger journalist may be more accustomed and experienced with digital technology than an older journalist who started his or her careers using analog technology. Therefore, journalists now entering the news industry may be more capable of handling the added technical tasks better due to their familiarity with the technology.

In addition, the results also do not clearly show how technical tasks affect content diversity, newscast structure, and story selection.

Diversity

The diversity of content refers to the amount of variety of topics in a newscast including local, national, and international stories, investigative pieces, and reports on topics such as health, government, and entertainment. The focus group and interview participants say that the diversity of content has not changed over the years, regardless of improved technology. One reason they gave was that reporters and producers often first choose the content offered via the news service provider instead of searching the options for the soundbite or video most editorially appropriate for the story, which is similar to what they used to do before technology with satellite feeds, which may explain why it has not changed.

However, answers to questions in the survey that indirectly ask about the diversity of content in local news were conflicting: the majority of respondents suggested that they have seen a decline in topical diversity, but others suggested this is improving. Interestingly, participants cited “technology” as the most common reason for both the decrease and increase in content diversity, while news style was cited as contributing only to decline.

The findings from the survey regarding diversity of news topics show that there is no large difference in views of the survey respondents regarding how the use of news services and the requirements associated with editorial and technical tasks have on the quality of local television news based on years of experience, geographic location, gender, market size or age.

One survey question answered by the group of respondents that identified themselves as managers stands out from the other job title groups. The management group was the only group that said that diversity in local television news is increasing.

Quality

The results indicate that journalists have a similar definition of newscast quality, as well as similar ideas about what tasks and responsibilities constitute the job responsibilities of a local television journalist, specifically those of a reporter and producer, and regardless of age, gender, years of experience, or geographic location.

A minority of journalists interviewed said that the quality of local television news has improved in part because of advancements in technology, including image quality and the ability to quickly broadcast live from more places.

However, this research shows that the participants of the focus group agreed that quality has declined and cited multiple reasons. The participants agreed that quality is declining in part due to adding technical tasks to a producer's workload, which reduces his or her time to complete editorial tasks. In addition, the journalists interviewed stated that the requirement to supply additional original stories or a repurposed version of an on-air story to multiple social media platforms also impacts time spent on editorial tasks because it takes extra time to write and often edit video elements for an online story. The quality of news produced for multiple platforms is also reduced due to the lack of oversight, poor sourcing of content, and insufficient fact checking. This suggests that a reduction of time inhibits a journalist's ability to thoroughly process and analyze content and that, in turn, reduces the quality of local television news and its social media platforms.

The participants also agreed that the type or style of news has recently become more sensational, covering an increasing amount of entertainment and tabloid driven stories, which they believe further reduces the quality of news produced.

The results suggest that managerial decisions to increase the number of tasks performed by their employees, the requirement to supply content to multiple non-broadcast platforms, and the style of the news produced are the driving factor in the reduction of quality in local television news.

IMPLICATIONS OF THE STUDY

In the interest of improving local television news programming by addressing the areas of news production where quality has decreased, I want to provide

journalists, news directors, and executive producers with information regarding the costs and benefits of using emerging technology in the newsgathering and production of local television news, at least in the views of people working in the industry.

Below, after summarizing the answers to my research questions, I explain options and alternatives in the production methods and structuring of local television news that general managers, news directors, producers, reporters, and others may when working in the news production process.

RESEARCH QUESTIONS

The results of the study support all four of my expectations:

Regarding RQ1 – I had expected that broadcast news professionals would report that digital technology such as IP-based store-and-forward technology, smaller portable newsgathering gear, and cellular transmission methods would have dramatically changed the workflow and production methods of local television news.

As predicted, broadcast news professionals told me that digital technology such as IP-based store-and-forward news service systems, small portable newsgathering gear, and cellular transmission methods have changed the workflow and production methods by facilitating instant access to an enormous amount of content not previously available via satellite feed methods. In particular, broadcast news professionals agree that store-and-forward technology has dramatically changed the method of content collection and distribution by allowing producers, reporters, and video editors the ability to access, explore, and download a variety of elements directly onto their desktops and edit systems. They also said they benefit from the

additional live event coverage from more remote locations using cellular-based transmission systems.

In order to take advantage of the systems' benefits, news directors and assignment managers involved in daily story selection in morning and afternoon editorial and planning meetings should be more detailed on what is expected from each reporter and producer assignment in order to hammer out the workflow to ensure the workload is spread more evenly. An investment in training is also critical because while the systems are somewhat similar to on-demand video sites such as YouTube and Netflix, those not familiar with navigating these types of applications may be overwhelmed or intimidated by the vast amount of content options they deliver, especially among those staff accustomed to receiving only the small amount of material that can be accommodated in a limited satellite feed window. Finally, station managers need to provide computer and server systems are powerful enough to handle workflow requirements such as HD video playback, content recording, and searching large amounts of content.

Regarding RQ2 – I had expected that local television producers and reporters would say that the use of network affiliated and subscription based news services have changed how local television news is produced.

As predicted, most broadcast news professionals agreed that the use of network affiliate and subscription-based news services have changed how local television news is produced by supplying a vast amount of news elements for immediate download. Show producers are using the news services to supply content to the

increasing number of morning news programs. However, the research also shows that producers from different stations often choose the same video elements or packages from multiple news services, which results in less variety in news across different stations.

News directors, producers, and reporters should not rely too heavily on news services to prevent overlap with the competition. As the Conan O'Brien clip on page 20 highlights, many local stations with access to news service content end up selecting the same content choices as their competitors. Generating original content and/or making more careful selections from the news services can help differentiate the station from its competitors. This too would require better planning and time management from those making daily staff assignments.

Regarding RQ3 – I had expected that local television producers and reporters would say that the increased number of required daily tasks have affected the production of local television news.

Most broadcast news professionals agreed that the increased number of required daily tasks have had negative effects on the production of local television news. In particular, broadcast news professionals agreed that certain technical tasks such as editing, downloading content from news services, and supplying content to multiple Internet platforms disrupt their workflow when producing news stories.

In order to prevent staffers from being overwhelmed and/or overloaded, news directors and assignment managers need to plan and distribute assignments more

evenly, which requires a greater understanding of the daily work requirements of each staff position. One way to accomplish this is to have assignment managers and in-house producers spend time in the field with photographers or one-man-bands to observe how their assigned tasks impact time management and overall news story production. Newsroom staff would then be able to take into consideration how certain tasks, for example setting up a microwave van or editing a package, can impact newsgathering efforts in the field so they can then, in turn, adjust their planning accordingly. A better understanding of the mechanics of collecting and transmitting content can lead to more informed story assignments that better utilize staffers' time, as well as help newscast producers make better decisions as to when using news service content is most appropriate.

Station management should also invest in more staff writers for their social media platforms rather than relying on reporters and producers. This will not only free up time for the reporters and producers to focus on more research and interviews, but it will also improve the social media content because one staffer can devote his or her skills to a single task. While all stories in newscasts have been read and approved by one or more coworkers or superiors before airing, this is not often the case regarding talent and staff's work related and personal social media posts. More oversight of these accounts is paramount to ensure accuracy and credibility.

Regarding RQ4 – I had expected that the increased number of required daily tasks have affected the quality of local television news.

Local television producers and reporters agreed that the increased number of required daily tasks has negatively affected the quality of local television news by reducing the amount of time producers and reporters have to perform traditional editorial tasks such as writing, interviewing, and researching news stories and events. In the case of one-man-bands, journalists say that not only does it take time away from newsgathering and writing, but it also isolates them from co-workers who can add experience and knowledge to the production of a story. In addition, reporters are performing tasks usually done by engineering experts in the field. For example, replacing an experienced camera operator with a reporter that may have little to no experience shooting video decreases the quality of the story from a visual and storytelling aspect. A second example is choosing not to have an experienced producer onsite with a crew that can negatively impact the amount of information gathered and how the story is structured, which lessens the value a story has on viewers. The increase in demand for original content on multiple Internet platforms also reduces the quality of their work because it diverts more time away from the primary story of the day.

A greater understanding of the time restraints and requirements producers and reporters have on producing news by news managers and assignment managers will be a major step toward improving the quality of local television news. Staff not familiar with field production should be trained in the gear used in the field and should accompany crews on field shoots to better understand the time requirements and difficulties experienced by many staff members. A better understanding of

procedures and methods by decision makers assigning tasks will benefit crews, reporters, and producers by supporting them with more time to complete productions.

Regarding one-man-bands, I suggest realistic discussions of the tasks required to produce a story of quality. News directors and assignment managers need to understand the time required to shoot, interview, write, edit, and finalize a story produced by a one-man-band. Although many managers have had long careers in the news business, the production methods have changed dramatically in recent years in ways that many may not be familiar with. To help alleviate the added workload of providing new material for websites and social media platforms, I also suggest hiring producers and/or writers specifically tasked with either editing or generating additional online content.

LIMITATIONS OF THE STUDY

My application and implementation of each of the four methods had limitations. The problem with the focus group, interview, and survey methods was when I conducted the research; I was unable to recruit enough people or participants from different regions with a wide variety of job titles, specifically with too few participants in management roles. The lack of management participants may have resulted in an inaccurate view of management's perspective on one-man-bands.

Almost half of the survey respondents are from FOX affiliated stations and only 3% of the respondents are from stations in DMAs #101 through #210. More than one-third, 41%, of the respondents are from the south region and two-thirds of the respondents are female. Some or all of these limitations or lack of representation may have skewed the results regarding any or all of the topics.

The content analysis may have also occurred at a time of national or international breaking news that may dominate coverage, which is when affiliates tend to rely heavily on news service content, which may have resulted in analysis of newscasts with less locally produced content than usual. The amount of local news compared to news subscription content may, therefore, be incorrect or misleading.

RECOMMENDATIONS FOR FUTURE RESEARCH

This dissertation tested a set of ideas and observations of mine that have developed over my 34-year journalism career. It lays the groundwork for future studies regarding the use of technology in all aspects of local television news production and the impact that these tools have on the roles of journalists and the quality of local television news.

The largest gap in research that this study exposes is the impact of supplying original content to station websites and other social media platforms have on the quality of local television. Not only does the additional writing and video editing reduce the amount of time reporters and producers have to complete other tasks, the poor sourcing of content, the lack of oversight, and limited fact checking negatively affect the accuracy and validity of the stories that appear on social media platforms.

In addition, new portable cellular-based transmission systems such as LiveU and Dejero have not been adequately studied. More research is needed on the impact this commonly used technology has on the production and quality of local television news. I believe these have had the greatest impact on the production and content of local news since the introduction of the personal computer and microwave and satellite trucks but they have not been adequately studied. More research is needed

to determine how much of an impact this now commonly used technology has on production and quality.

Future research should also address how young journalists, ones that have grown up in a tech savvy culture, use current and emerging technology in the collection and production of news when compared to their older colleagues.

The use of drone video is also now common in the production of local television news. Currently, there is little research done on the use of drones by local news stations and their value to the viewing audience. Another aspect of drone use that needs to be addressed is the editorial control news managers and producers have over the content of the video since often, a majority of drone video used in newscasts is purchased from amateurs with few legal limitations on where and when they fly. The FAA has strict restrictions prohibiting professional drone pilots for when and where they fly, including from flying over-populated areas, during disasters, or areas within no fly zone such as near airports, helipads, and public parks. Since the task of flying a drone requires pilots to be FAA certified, its flight plan to comply with FAA rules and regulations, and permission from station management, its legal department, and from those whose property will be flown over, the use of a drone to collect elements other than a quick wide shot of an area is not yet practical in daily newsgathering.

CONCLUSIONS

Overall, I conclude that the role of a local television journalist has changed and a new hybrid editorial/technical role for reporters and producers has emerged. These hybrid journalists are required to perform more technical tasks, resulting in

time diverted away from traditional tasks such as story research, news analysis, and script writing. This research study and existing literature propose that these changes in roles are contributing to a decline of quality in local television news. This is an indirect result of the use of newer technology, including store-and-forward technology, IP-based news services, smaller recording and storage devices, and handheld sized transmission gear. The use of these tools has made the collection and distribution of content more efficient, but the speed and ease of this technology have resulted in more tasks being performed by individual journalists, which leads to less locally generated content. In addition, the increased need to supply original content to station websites and multiple social media platforms has also negatively affected the quality of local television news.

But it is possible to utilize newer technology without sacrificing news reporting quality. Station news directors and managers should understand how the technology used in the production of newscasts works and its limitations. Therefore, training at all levels is critical. The decision makers in the news production process whose work primarily occurs at the station, for example, news directors, assignments managers, executive producers, segment producers, package producers, engineers, and editors, should go into the field with a crew to understand how the methods of newsgathering and production are performed. News directors and assignment managers need to understand the time required to shoot, interview, write, edit, and finalize a story produced by a one-man-band.

The education of the in-house staff will greatly improve understanding of field crew's needs and limitations and will result in the more efficient and effective

assignment of tasks and help distribute workflow more evenly. Additional training in the use of store-and-forward systems, news service content, and cellular-based transmission systems is also critical for improving workflow. The training may redesign workflow and tasks delegation to allow reporters and producers more time to complete traditional editorial tasks such as interviews, research, and the writing of stories.

Producers, reporters, and video editors should not over rely on news service content. To facilitate this need, more time is required to properly search the vast amount of material available via news services. Additionally, assignment managers need to make time available to crews to produce original content when in the field instead of relying on news services.

In addition, many journalists are overwhelmed with the added responsibility of providing original content to social media platforms. Either hiring staff to specifically produce original or repurposed content for social media platforms or providing more support to those reporters and producers in the field is recommended so they have more time to perform traditional tasks needed to produce a news story of quality.

News directors and managers need to also have greater oversight of content provided on social media platforms. Misinformation, improper sourcing, lack of editing by superiors or coworkers, and other staff miscues such as improper use of personal and professional social media including controversial Twitter and Facebook postings can lessen reporting quality and call into question the integrity of the station.

Finally, the use of portable cellular-based transmission systems, such as LiveU and Dejero, along with new drone technology has increased in the production of local news since the start of this research project. Further study into how these devices are used by local television news producers is needed. More research is also needed to determine how their use affects the quality of local television news in terms of expanding live shot locations and the ability to fly over areas of interest never before accessible.

Since the research suggests that there is a shift in the balance of reporting/journalism responsibilities versus technology tasks and social media activity and the subsequent changes in the processes of collecting, reporting, and distributing journalism content, I propose a few modifications in news production. A focus on training, making realistic assessments of tasks allocation and workflow, and providing greater oversight of social media platforms are important methods available to news directors, assignment editors, producers, and reporters to improve the quality of local television news.

APPENDIX I

EMAIL TO NEWS DIRECTORS IN LOCAL NETWORK-AFFILIATED STATIONS

April 10, 2014

Dear Mr./Mrs./Ms.,

My name is Jason Scanlon and I am a PhD candidate at the University of Maryland with 29 years of network and local television news experience. I am currently recruiting news professionals to participate in the data collection portion of my dissertation via an interview and/or by completing an online survey.

The purpose of this research project is to explore how news professionals use technologies, such as store and forward, in the production of local television news. Specifically, the gathering of digitally delivered news content, the utilization of local news resources, its effect on story selection and show structure. I will also explore the effect new technologies have on the role of local news producers and whether or not they have precipitated changes, for good or for bad, in the diversity and quality of local television news.

Ultimately, I hope this project impacts how news professionals use these 'technology tools' in a more efficient, effective and economical method to provide the best news products to their viewers.

All data obtained from participants will be kept confidential and will only be reported in an aggregate format (by reporting only combined results and never reporting individual ones).

If you or any of your colleagues are interested in participating in the survey, please click on the following link. A more detailed explanation of the survey and a consent form is presented before the start of the survey.

Link to survey - http://maryland.qualtrics.com//SE/?SID=SV_bKJiIArPVOBM13D

If you or any of your colleagues are interested in providing an interview, please contact me at:

jscanlon@umd.edu
scanlon_5@yahoo.com
202-550-8390

Thank you for your time and please pass this email on to anyone who you feel would be interested in participating in this project.

Jason Scanlon

APPENDIX II

Survey Questions

Q1 At which local television station are you currently employed? (Optional)

Q2 Your station is affiliated with which network?

- ABC (1)
- CBS (2)
- FOX (3)
- NBC (4)

Q3 Your station is located in which of the following DMA (Designated Market Area) categories? (Copy and paste link in new browser window to view DMA rankings) http://www.tvb.org/media/file/TVB_Market_Profiles_Nielsen_TVHH_DMA_Ranks_2013-2014.pdf

- #1 (NYC) to #25 (Charlotte) (1)
- #26 (Indianapolis) to #100 (Greenville-Bern-Washngtn) (2)
- #101 (Ft. Smith-Fay-Sprngdl-Rgrs) - #210 (Glendive) (3)

Q4 Where are you located?

- Northeast (1)
- Mid-Atlantic (2)
- South (3)
- Midwest (4)
- Mountain (5)
- West (6)
- Southwest (8)
- Other (7) _____

Q5 How long have you been employed at your current station?

- Less than one year (1)
- More than one year and less than five years (2)
- More than five years and less than ten years (3)
- More than ten years and less than twenty years (4)
- More than twenty years (5)

Q6 What is your current job title? (Choose more than one if applicable)

- Producer (1)
- Writer (11)
- Reporter (7)
- Technical Operator - i.e. editor, camera operator, intake, master control, engineer, etc. (2)
- Management (3)
- Finance (5)
- Other (4) _____

Q7 How long have you held your current position?

- Less than one year (1)
- More than one year and less than five years (2)
- More than five years and less than ten years (3)
- More than ten years and less than twenty years (4)
- More than twenty years (5)

Q8 Briefly describe your daily job responsibilities.

Q9 Other than your current station, have you worked in the news department at any other local television station?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To In total, how many years have you...

Q10 At which local television station where you previously employed? (Optional)

Q11 Your previous station is affiliated with which network?

- ABC (1)
- CBS (2)
- FOX (3)
- NBC (4)

Q12 Your previous station was located in which of the following DMA (Designated Market Area) categories?

- #1 (NYC) to #25 (Charlotte) (1)
- #26 (Indianapolis) to #100 (Greenville-N.Bern-Washngtn) (2)
- #101 (Ft. Smith-Fay-Sprngdl-Rgrs) - #210 (Glendive) (3)

Q13 Where is your previous station located?

- Northeast (1)
- Mid-Atlantic (2)
- South (3)
- Midwest (4)
- Mountain (5)
- West (6)
- Southwest (8)
- Other (7) _____

Q14 What was your previous job title(s)? (Choose more than one if applicable)

- Producer (1)
- Writer (7)
- Reporter (12)
- Technical Operator - i.e. editor, camera operator, intake, master control, engineer, etc. (2)
- Management (3)
- Finance (5)
- Other (4) _____

Q15 Briefly describe your daily job responsibilities at your previous station.

Q16 In total, how many years have you worked in local television news?

- Less than one year (1)
- More than one year and less than five years (2)
- More than five years and less than ten years (3)
- More than ten years and less than twenty years (4)
- More than twenty years (5)

Q17 Have you worked at any other type of news media outlet other than television?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To Does your station employ a network affiliate news services?

Q18 Which type(s) of news outlet best describes where you have previously worked?
(Choose more than one if applicable)

- Newspaper (1)
- Magazine (2)
- Radio (10)
- Online news outlet (3)
- Community newsletter (5)
- Public relations (6)
- Corporate video (8)
- Other (4) _____

Q19 What was your job title at your previous news outlet? (Choose more than one if applicable)

- Writer (1)
- Editor (2)
- Reporter (9)
- Technician - i.e. printer, web site maintenance, engineer, etc. (5)
- Graphic and/or web design (6)
- Management (3)
- Finance (7)
- Other (4) _____

Q20 Does your station employ a network affiliated news service: ABC - NewsOne, CBS - Newspath, Fox - NewsEdge, NBC - News Channel or syndicated news service(s): CNN - Newsource, APTN (Associated Press Television News) or Reuters News?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To Thank you for your time. The informat...

Q21 Which news service(s)? (Choose more than one if applicable)

- ABC - NewsOne (1)
- CBS - Newspath (2)
- CNN - Newsource (3)
- Fox - NewsEdge (4)
- NBC - News Channel (5)
- APTN (6)
- Reuters (7)
- Other (8) _____

Q22 How frequently do you include content (VO, SOT, Packages, etc.) from network affiliated or syndicated news service(s) in your newscasts?

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- All of the Time (5)

Q23 How frequently do you reuse content (VO, SOT, Packages, etc.) from network affiliated or syndicated news service(s) in multiple newscasts?'

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- All of the Time (5)

Q24 'Content retrieved from network affiliate or syndicated news service(s) has replaced locally generated content.'

- Never (1)
- Rarely (6)
- Sometimes (2)
- Often (3)
- All of the Time (4)

Q25 'Access to a large amount and wide variety of news content from network affiliated news services and/or syndicated news services has influenced story selection more often than editorial factors.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q26 'I am able to perform my job responsibilities more efficiently due to the large amount and wide variety of news content from network affiliated news services and/or syndicated news services.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q27 'I am able to perform my job responsibilities more effectively due to the large amount and wide variety of news content from network affiliated news services and/or syndicated news services.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q28 'Access to a large amount and wide variety of news content from network affiliated news services and/or syndicated news services improves the quality of your work.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q29 'Access to a large amount and wide variety of news content from network affiliated news services and/or syndicated news services has increased your workload.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q30 'Network affiliated news services and syndicated news services have changed how newscasts are structured.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q31 Which digital media distribution and management system (aka store and forward system) does your station use?

- Bitcentral (1)
- iPump (2)
- Pathfire (3)
- Other (4) _____

Q32 'Store and forward technology (i.e. Bitcentral, iPump, Pathfire) has allowed you to perform your job responsibilities more effectively.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q33 'Store and forward technology (i.e. Bitcentral, iPump, Pathfire) has allowed you to perform your job responsibilities more efficiently.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q34 'Store and forward technology (i.e. Bitcentral, iPump, Pathfire) improves the quality of my work.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q35 'Store and forward technology (i.e. Bitcentral, iPump, Pathfire) has increased my workload.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q36 'Store and forward technology has changed how newscasts are structured.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q37 'Store and forward technology (i.e. Bitcentral, iPump, Pathfire) has influenced the story selection more often than editorial factors.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q38 Have you previously worked or are currently working with network affiliated news services or syndicated news services that are delivered as real-time scheduled feeds, (i.e. APTN's 03:30 'Prime News – Europe' feed or Reuters' 05:00 'World' feed) opposed to content delivered via store and forward technology (i.e. Bitcentral, iPump, Pathfire)?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To How do you define quality in local news?

Q39 Briefly describe the process of searching, recording and distributing content via real-time scheduled feeds (i.e. APTN's 03:30 'Prime News – Europe' feed or Reuters' 05:00 'World' feed).

Q40 What is the main difference(s) between working with real-time scheduled feeds (i.e. APTN's 03:30 'Prime News – Europe' feed or Reuters' 05:00 'World' feed) and store and forward technology (i.e. Bitcentral, iPump, Pathfire)? (Choose more than one if applicable)

- Wider variety of content (1)
- Easier access to content: PC vs. Master control/intake (4)
- Faster access to content (2)
- Streamlined work-flow (3)
- Other (7) _____

Q41 'The fundamental responsibilities of my job are the same whether using the real-time scheduled feeds (i.e. APTN's 03:30 'Prime News – Europe' feed or Reuters' 05:00 'World' feed) or store and forward technology (i.e. Bitcentral, iPump, Pathfire).'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q42 Which system do you prefer? Please explain your answer in the following space.

- Real-time scheduled feeds (i.e. APTN's 03:30 'Prime News – Europe' feed or Reuters' 05:00 'World' feed) (1)
- Store and forward technology (i.e. Bitcentral, iPump, Pathfire) (2)
- I like both of the systems equally (4)
- I do not like either system (3)

Q43 Please explain your answer to the previous question - 'Which system do you prefer?'

Q44 A new technology (i.e. a digital server, a change in recording format, a change in editing software, a change in camera format, etc.) is introduced into your newsroom at least once every:

- Three months (1)
- Six months (2)
- One year (3)
- Five years (6)
- More than five years (4)

Q45 'The introduction of new technologies has dramatically affected the daily newsroom routine.'

- Strongly disagree (1)
- Disagree (3)
- Neither Agree nor Disagree (4)
- Agree (5)
- Strongly agree (6)

Q46 How do you define quality in local news?

Q47 'The quality of local television news is . . .'

- Improving (1)
- Declining (2)
- No change (3)

Answer If 'The quality of local television news is . . . ' Declining Is Selected

Q48 'The decline in quality of local television news is dramatic.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Answer If 'The quality of local television news is . . . ' Declining Is Selected

Q49 The contributing factor(s) to the decline in quality: (Choose more than one if applicable)

- Technology - i.e. store and forward, transmission methods, distribution methods, etc. (1)
- Staff size (2)
- Management (3)
- Style of news produced (4)
- Other (5) _____
- No decline in quality (6)

Answer If 'The quality of local television news is . . . ' Improving Is Selected

Q50 'The improvement in quality of local television news is dramatic.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Answer If 'The quality of local television news is . . . ' Improving Is Selected

Q51 The contributing factor(s) to the improvement in quality: (Choose more than one if applicable)

- Technology - i.e. store and forward, transmission methods, distribution methods, etc. (1)
- Staff size (2)
- Management (3)
- Style of news produced (4)
- Other (5) _____
- No decline in quality (6)

Q52 'The diversity of programming content in local television news is . . . '

- Increasing (1)
- Declining (2)
- No change (3)

Answer If Declining Is Selected

Q53 'The decline in diversity of programming content in local television news is dramatic.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Answer If 'The diversity of programming content in local television news is . . . ' Declining Is Selected

Q54 The reason(s) for the decline in diversity of programming content: (Choose more than one if applicable)

- Technology - i.e. store and forward, transmission methods, distribution methods, etc. (1)
- Staff size (2)
- Management (3)
- Style of news produced (4)
- Other (5) _____
- No decline in diversity (6)

Answer If 'The diversity of local television news is . . . ' Increasing Is Selected

Q55 'The improvement in the diversity of programming content in local television news is dramatic.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Answer If 'The diversity of programming content in local television news is . . . ' Increasing Is Selected

Q56 The contributing factor(s) to the improvement in diversity: (Choose more than one if applicable)

- Technology - i.e. store and forward, transmission methods, distribution methods, etc. (1)
- Staff size (2)
- Management (3)
- Style of news produced (4)
- Other (5) _____
- No decline in diversity (6)

Q57 'Store and forward technology (i.e. Bitcentral, iPump, Pathfire) plays a dramatic role in which stories are selected for news programming.'

- Strongly disagree (2)
- Disagree (3)
- Neither Agree nor Disagree (4)
- Agree (5)
- Strongly agree (6)

Q58 Do you work in management (i.e. supervisor, executive producer, chief editor, chief photographer, assistant news director, news director, general manager, CFO or CEO, etc.?)

- Yes (1)
- No (2)

If No Is Selected, Then Skip To Are you a producer?

Q59 The introduction of new technologies has changed the type of producer hired at your station because: (Choose more than one if applicable)

- Producers are now responsible for technical tasks that were not required in previous years (1)
- The economy dictates the redefining of the traditional television producer position (2)
- The need for hybrid editorial/technical producer (4)
- No change (5)
- Other (7) _____

Q60 New technologies such as store and forward have negatively affected which of following: (Choose more than one if applicable)

- The quality of local news programming (1)
- The diversity of local news programming (3)
- The value of local news programming (2)
- No negative effects (4)

If New technologies such as st... Is Greater Than or Equal to 1, Then Skip To Where are you located?

Q61 Are you a producer?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To Are you a technician: i.e. video edit...

Q62 How do you define the position of a producer in local television news?

Q63 Has your definition of a television producer changed over time?

- Yes (4)
- No (5)

If Yes Is Selected, Then Skip To How has you definition of a producer ...

Q64 How has your definition of a producer changed?

Q65 The job tasks of a local television news producer include(s) the following: (Choose more than one if applicable)

- Write scripts (1)
- Edit scripts (2)
- Story selection (9)
- Structuring newscasts (10)
- Research stories (3)
- Download / record content from news services (4)
- Upload content to news service(s) (8)
- Video edit content (5)
- Provide content for other platforms: e.g. station's website, Twitter, Facebook, RSS, etc. (6)
- Other (7) _____

Q66 How much time do you spend on editorial tasks such as script writing/editing, researching topics, interviewing subjects, contacting sources . . . ?

- Less than 25% of the time (1)
- Between 25% and 50% of the time (2)
- Between 51% and 75% of the time (3)
- over 76% of the time (4)
- None (5)

Q67 How much time do you spend on technical tasks such as video editing, downloading/recording and/or uploading content . . . ?

- Less than 25% of the time (1)
- Between 25% and 50% of the time (2)
- Between 51% and 75% of the time (3)
- over 76% of the time (4)
- None (5)

If None Is Selected, Then Skip To 'The introduction of store and forwar...

Q68 How much experience/training do you have regarding the technical tasks?

- Less than three months (1)
- More than three month - less than one year (2)
- More than one year - less than five years (3)
- More than five years (4)
- None (5)

Q69 'The technical tasks have negatively affected your ability to complete editorial tasks.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q70 'The technical tasks have negatively affected the quality of your work.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q71 'The technical tasks have negatively affected the diversity of your work.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q72 'The technical tasks have negatively affected your work-flow.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q73 Which other news platforms do you supply content to? (Choose more than one if applicable)

- Station's website (1)
- Twitter (2)
- Facebook (3)
- RSS (4)
- Instagram (7)
- Other (5) _____
- None (6)

If Which other news platforms ... Is Greater Than or Equal to 1, Then Skip To Do you work in management?

Q74 'Access to a large amount and wide variety of news content via store and forward technology (i.e. Bitcentral, iPump, Pathfire) has negatively affected the quality of your work.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q75 'Access to a large amount and wide variety of news content via store and forward technology (i.e. Bitcentral, iPump, Pathfire) has negatively affected the diversity of programming content in your work.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q76 'Access to a large amount and wide variety of news content via store and forward technology (i.e. Bitcentral, iPump, Pathfire) have negatively affected your work-flow.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q77 Are you a technician: i.e. video editor, camera operator, sound technician, engineer, master control, etc.?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To Do you work in the finance department...

Q78 'Access to a large amount and wide variety of news content via store and forward technology (i.e. Bitcentral, iPump, Pathfire) has negatively affected the quality of your work.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q79 'Access to a large amount and wide variety of news content via store and forward technology (i.e. Bitcentral, iPump, Pathfire) has negatively affected the diversity of programming content in your work.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q80 'Access to a large amount and wide variety of news content via store and forward technology (i.e. Bitcentral, iPump, Pathfire) have negatively affected your work-flow.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q81 Which other news platforms do you supply content to? (Choose more than one if applicable)

- Station's website (1)
- Twitter (2)
- Facebook (3)
- RSS (4)
- Instagram (7)
- Other (5) _____
- None (6)

Q82 Do you work in the finance department (i.e. accounting, CFO, CEO, etc)?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To What is your age?

Q83 'The introduction of new technologies has had a positive affected the station's bottom line.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q84 'The introduction of new technologies has had a positive affected the station's bottom line.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q85 'Store and forward technologies have dramatically affected your capital budget purchases and decisions.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q86 'Store and forward technologies have dramatically affected your capital budget purchases and decisions.'

- Strongly disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q87 What is your age?

- 18 - 25 (1)
- 26 - 35 (2)
- 36 - 50 (3)
- Over 50 (4)

Q88 What is your gender?

- Male (1)
- Female (2)

Q89 How did you find the survey?

- Personal referral (1)
- Facebook (2)
- LinkedIn (3)
- Through station recruitment (4)

APPENDIX III

Initial Set of Codes

NEWSCAST

1. Diversity
2. Format
3. Live Shots
4. Local News Values
5. More Hours of News
6. Cost/Money
7. Gatekeeping
8. Agenda Setting
9. Depends On the Show
10. Why Viewers Watch Local News

CONTENT

11. Locally Generated Content
12. Local News Services
13. News Services Content

STYLE

14. Creativity
15. Entertainment
16. In Depth
17. Sensationalism
18. Shallow
19. Storytellers
20. Opinionated
21. Investigative

QUALITY

22. Quality Increased
23. Quality Decreased
24. Quality Unchanged
25. Quality Definition
26. Quality Change - technology
27. Quality Change - Multitasking
28. Quality Change - Style
29. Quality Change – One Man Band
30. Small Market
31. Sourcing
32. Large Market
33. Lower Production Quality

NEWS WORKERS

34. Anchor
35. Producer
36. Reporter
37. Editor
38. One Man Band General
39. Negative Effects of One Man Band
40. Positive Effects of One Man Band
41. Tech Savvy
42. Multitasking General
43. Negative Effects of Multitasking
44. Positive Effects of Multitasking
45. Time Management General
46. Negative Effects of Time Management
47. Positive Effects of Time Management
48. New Tasks
49. Writer
50. Workflow
51. Number of Staff
52. Isolation
53. Negative Effects of Technology
54. Positive Effects of Technology
55. Hybrid Editorial/Technical
56. Tech Caused Unemployment
57. Photographer

NEWS SERVICE

- 58. IP
- 59. Satellite Feeds

SOCIAL MEDIA

- 60. Cell Phone
- 61. Social Media Twitter Facebook
- 62. Multiple Platforms
- 63. Websites
- 64. Provide/Interact Content
- 65. Receive Content from Social Media

GENERAL TECHNOLOGY

- 66. Access to Content
- 67. Efficiency
- 68. Faster
- 69. Portable Gear
- 70. Technical Skills

PERSONAL

- 71. Years in Business
- 72. Work Locations
- 73. Station Affiliation
- 74. Job Titles

Final Set of Codes

NEWSCAST

1. Diversity
2. Format
3. Live Shots
4. Local News Values
5. More Hours of News
6. Cost/Money
7. Gatekeeping
8. Agenda Setting
9. Depends On the Show
10. Why I Watch Local News

CONTENT

11. Locally Generated Content
12. Local News Services
13. News Services Content

STYLE

14. Creativity
15. Entertainment
16. In Depth
17. Sensationalism
18. Shallow
19. Storytellers
20. Opinionated
21. Lower Production Quality

QUALITY

22. Increased
23. Decreased
24. Unchanged

- 25. Definition
- 26. Reasons for Quality Change
- 27. Small Market
- 28. Sourcing
- 29. Large Market

NEWS WORKERS

- 30. Anchor
- 31. Producer
- 32. Reporter
- 33. Editor
- 34. One Man Band
- 35. Tech Savvy
- 36. Multitasking
- 37. Time Management
- 38. Writer
- 39. Workflow
- 40. Number of Staff
- 41. Isolation
- 42. Pew
- 43. Personalities
- 44. Tech Caused Unemployment
- 45. Photographer

NEWS SERVICE

- 46. IP
- 47. Satellite Feeds

SOCIAL MEDIA

- 48. Cell Phone
- 49. Twitter
- 50. Facebook
- 51. Multiple Platforms
- 52. Websites
- 53. Provide/Interact Content

54. Receive Content from Social Media

GENERAL TECHNOLOGY

- 55. Access to Content
- 56. Efficiency
- 57. Faster
- 58. Portable Gear
- 59. Technical Skills
- 60. Technology

PERSONAL

- 61. Years in Business
- 62. Work Locations
- 63. Station Affiliation
- 64. Job Titles

APPENDIX IV

FICTIONAL NAMES OF PARTICIPANTS IN THE DISSERTATION

Marleigh – Producer, Anchor, and Reporter

JJ – Producer and Editor

Daniel – Producer, Anchor, Reporter and One-Man-Band

Tracy – Video Editor

Madison – Writer, Web News Editor, Reporter and Researcher

Thomas – Producer

Copeland – Cameraman, Live Truck Engineer and Video Editor

John – Video editor

Rosina – Assistant News Director, Former Producer and Writer

Paul – Producer and Reporter

Joesph – Photographer and Video Editor

Joey - Director of Operations, Producer, and Assignment Editor

Marie - Producer

Stanley - Photographer

APPENDIX V

MAP OF LOCAL NEWS STATIONS IN CONTENT ANALYSIS

Local News Stations in Content Analysis



APPENDIX VI

COMPLETE SIXTY STATION DATA SET

DM A	Station	Network	Market - Cities	# TV homes	Time	Date	Weekday	Local	Sec	NS	Se c	Tota l	Sec
1	WNYW	FOX	New York	7,368,320	1700 - 1730	4.20.15	Monday	6:55	415	4:37	27	11:3	692
2	KABC	ABC	Los Angeles	5,523,800	1700 - 1730	3.22.15	Sunday	6:39	399	2:21	14	9:00	540
3	WFLD	FOX	Chicago	3,475,220	1200 - 1230	3.30.15	Monday	4:11	251	4	77	17:0	102
4	WTXF	FOX	Philadelphia	2,953,760	1800 - 1830	5.17.15	Sunday	8:48	528	7:52	4	5	5
5	WFAA	ABC	Dallas-Ft. Worth	2,603,680	2200 - 2230	5.24.15	Saturday	9:15	555	4:57	47	16:4	100
6	KRON	CBS	San Francisco-Oak-San Jose	2,484,690	0500 - 0530	4.21.15	Tuesday	7:38	458	2:49	29	14:1	852
8	WJLA	ABC	Washington DC (Hagrstwn)	2,443,640	1200 - 1230	3.30.15	Monday	9:27	567	2:57	16	10:2	627
9	WAGA	FOX	Atlanta	2,385,730	0900 - 0930	4.22.15	Wednesda y	6:12	372	2:24	17	12:2	744
10	KPRC	NBC	Houston	2,301,230	0600 - 0630	5.16.15	Saturday	5:57	357	2:34	7	4	516
11	KPHO	CBS	Phoenix (Prescott)	1,834,360	1800 - 1830	5.17.15	Sunday	11:4	702	6:21	15	8:31	511
13	WTVT	FOX	Tampa-St. Pete (Sarasota)	1,859,820	2200 - 2230	4.23.15	Thursday	10:3	3	4:41	38	18:0	108
14	KCPQ	FOX	Seattle - Tacoma	1,802,920	2300 - 2330	4.19.15	Sunday	10:3	1	5:56	28	15:1	914
15	KSTP	ABC	Minneapolis - St. Paul	1,730,170	2200 - 2230	5.16.15	Saturday	10:3	2	6:21	35	16:2	987
16	WSVN	FOX	Miami-Ft. Lauderdale	1,660,020	0600 - 0630	3.16.15	Monday	9:10	550	3:57	23	14:0	787
17	KDVR	FOX	Denver	1,576,090	0800 - 0830	4.22.15	Wednesda y	5:56	356	4:44	28	10:4	640
18	WOGX	FOX	Orlando-Daytona Bch- Melbrn	1,489,710	1700 - 1730	4.20.15	Monday	7:25	445	7:54	4	9	919
20	KXTL	FOX	Sacramento-Stkton-Modesto	1,345,960	0800 - 0830	4.25.15	Saturday	10:1	9	5:22	32	15:4	941
21	KTVI	FOX	St. Louis	1,217,370	1200 - 1230	5.01.15	Friday	12:2	9	7:30	45	19:5	119
22	WTAE	ABC	Pittsburg	1,173,320	1830 - 1900	5.17.15	Sunday	5:17	317	3:39	21	8:56	536
24	WBTV	CBS	Charlotte	1,168,610	0500 - 0530	4.20.15	Monday	11:3	9	6:19	13	13:5	838
26	WJZ	CBS	Baltimore	1,092,620	1830 - 1900	5.17.15	Sunday	9	699	2:19	27	12:5	770
27	WSBT	CBS	Indianapolis	1,073,090	2300 - 2330	3.30.15	Monday	8:19	499	4:31	52	11:5	716
30	WTNH	ABC	Hartford - New Haven	945,250	1200 - 1230	3.30.15	Monday	3:12	192	8:44	4	6	661
32	KSAT	ABC	San Antonio	907,320	0530 - 0600	3.17.15	Tuesday	9:54	594	1:07	67	1	661
33	KCTV	CBS	Kansas City	899,020	1700 - 1730	5.01.15	Friday	6:10	370	5:46	34	11:5	716
34	KSTU	FOX	Salt Lake City	897,390	2200 - 2230	5.16.15	Saturday	14:4	5	0:55	29	9	404
											11	10:5	651

35	WTMJ	NBC	Milwaukee	882,210	2200 – 2230	3.31.15	Tuesday	10:1 6	616	4:22	26 2	14:3 8	878
41	KTNV	ABC	Las Vegas	736,700	2300 – 2330	4.22.15	Wednesda y	12:2 6	746	1:46	10 6	14:1 2	852
49	WAVE	NBC	Louisville	653,710	0600 – 0630	4.01.15	Wednesda y	7:25	445	4:33	27 3	11:5 8	718
53	WJAR	NBC	Providence-New Bedford	605,930	1800 – 1830	3.29.15	Sunday	7:33	453	3:26	20 6	10:5 9	659
56	KATV	ABC	Little Rock - Pine Bluff	555,370	2200 - 2230	5.23.15	Saturday	5:50	350	3:04	18 4	8:54	534
58	WTEN	ABC	Albany-Schenectady-Troy	532,890	2300 – 2330	5.23.15	Saturday	4:25	265	5:09	30 9	9:34	574
60	KTUL	ABC	Tulsa	519,190	2200 – 2230	5.01.15	Friday	9:43	583	2:10	13 0	11:5 3	713
62	WINK	CBS	Ft. Myers - Naples	505,430	1200 – 1230	4.23.15	Thursday	4:45	285	5:18	31 8	10:0 3	603
69	KITV	ABC	Honolulu	438,610	0800 – 0830	4.25.15	Saturday	12:2 9	749	7:30	45 0	19:5 9	119
71	KGUN	ABC	Tucson	428,680	1700 - 1730	3.29.15	Sunday	8:53	533	4:21	26 1	13:1 4	794
74	KETV	ABC	Omaha	413,250	0530 – 0600	5.17.15	Sunday	6:57	417	6:37	39 7	13:3 4	814
76	WTOL	CBS	Toledo	397,620	0600 – 0630	4.20.15	Monday	5:12	312	3:13	19 3	8:25	505
79	WAFF	NBC	Hunsville-Decatur (Flor)	386,580	2200 – 2230	5.16.15	Saturday	7:14	434	3:37	21 7	10:5 1	651
97	WCYB	NBC	Tri-Cites, TN-VA	305,520	1200 – 1230	4.23.15	Thursday	6:21	381	4:57	29 7	11:1 8	678
101	KFSM	CBS	Ft. Smith-Fay-Sprngdl-Rgrs	296,160	1200 – 1230	4.20.15	Monday	5:56	356	3:43	22 3	9:39	579
102	WMBF	NBC	Myrtle Beach-Florence	286,640	2300 – 2330	4.23.15	Thursday	11:3 8	698	1:35	13:1 95	3	793
108	KLTV	ABC	Tyler-Longview-(Lfkn-Ncgd)	263,020	2200 – 2230	4.23.15	Thursday	14:1 7	857	1:31	15:4 91	8	948
109	KIVI	ABC	Boise	265,580	0630 – 0700	3.31.15	Tuesday	4:11	251	3:17	19 7	7:28	448
110	KELO	CBS	Sioux Falls (Mitchell)	260,500	1700 – 1730	5.1.15	Friday	12:1 9	739	0:00	12:1 0	9	739
112	WATE	NBC	Augusta-Aiken	258,130	2300 – 2330	5.24.15	Sunday	7:35	455	1:30	90 24	9:05 18:0	545
124	KLFY	CBS	Lafayette	230,180	0800 - 0830	4.25.15	Saturday	14:0 8	848	4:00	0 24	8 11:4	8 700
132	KRCR	ABC	Chico-Redding	187,920	2300 – 2330	4.25.15	Saturday	7:33	453	4:07	7 20	4 11:4	708
147	KTUU	NBC	Anchorage	152,260	1700 – 1730	5.1.15	Friday	8:20	500	3:28	8 45	8 15:4	945
148	KMIR	NBC	Palms Springs	154,320	2100 -2130 1200 –	4.19.15	Sunday	8:07	487	7:38	8 48	5 14:1	852
153	KIMT	ABC	Rochestr-Mason City-Austin	140,230	1230 1200 –	4.21.15	Tuesday	6:12	372	8:00	0 17:1	2 103	103
156	WABI	CBS	Bangor	131,990	1230 2300 –	4.22.15	Tuesday	9	9	0:00	0 15	9 5:16	9 316
164	KTXS	ABC	Abilene-Sweetwater	113,570	2330 0600 –	5.24.15	Sunday	2:46	166	2:30	0 24	5:16 14:3	874
165	KECI	NBC	Missoula	112,350	0630 2300 –	4.01.15	Wednesda y	10:3 4	634	4:00	0 39	4 11:0	667
167	WDAM	ABC	Hattiesburg-Laurel	109,490	2330 2300 –	5.24.15	Sunday	4:35	275	6:32	2 46	7 11:3	694
174	KPLC	NBC	Lake Charles	93,820	2330 2300 –	5.23.15	Saturday	3:51	231	7:43	3 13	4 9:42	582
181	KAIT	ABC	Jonesboro	79,100	2330	5.23.15	Saturday	7:30	450	2:12	2		

196	KTWO	ABC	Casper-Riverton	57,420	1700 – 1730	4.26.15	Sunday	4:09	249	2:32	2	6:41	401
202	KFXF	CBS	Fairbanks	34,970	1700 – 1730	5.21.15	Monday	9:01	541	1:16	76	10:1	617
203	KAVU	ABC	Victoria	32,340	2200 – 2230	10.22.1 4	Wednesda y	10:3 2	632	3:53	23 3	14:2 5	865

APPENDIX VII

NEWSCAST CONTENT TIMES – WEEKDAY AND WEEKEND

Weekday

DMA 1-25

<u>Station</u> <u>(11)</u>	<u>Network</u>	<u>Market - Cities</u>	<u>DMA</u>	<u>Time</u>	<u>Date</u>	<u>Weekday</u>	<u>Local</u>	<u>NS</u>	<u>Total</u>
							<u>Min: Sec</u>	<u>Min: Sec</u>	<u>Min: Sec</u>
WNYW	FOX	New York	1	1700 - 1730	4.20.15	Monday	6:55	4:37	11:32
WFLD	FOX	Chicago	3	1200 – 1230	3.30.15	Monday	4:11	12:54	17:04
KRON	CBS	San Francisco-Oak-San Jose	6	0500 - 0530	4.21.15	Tuesday	7:38	2:49	10:27
WJLA	ABC	Washington DC (Hagrstwn)	8	1200 – 1230	3.30.15	Monday	9:27	2:57	12:24
WAGA	FOX	Atlanta	9	0900 – 0930	4.22.15	Wednesday	6:12	2:24	8:37
WTVT	FOX	Tampa-St. Pete (Sarasota)	13	2200 – 2230	4.23.15	Thursday	10:33	4:41	15:14
WSVN	FOX	Miami	16	0600 – 0630	3.16.15	Monday	5:56	4:44	10:40
KDVR	FOX	Denver	17	0800 – 0830	4.22.15	Wednesday	7:25	7:54	15:19
WOGX	FOX	Orlando-Daytona Bch-Melbrn	18	1700 -1730	4.20.15	Monday	10:19	5:22	15:41
KTVI	FOX	St. Louis	21	1200 - 1230	5.01.15	Friday	5:17	3:39	8:46
WBTV	CBS	Charlotte	24	0500 – 0530	4.20.15	Monday	8:19	4:31	12:50
Total							1h 22m 12s	56m 32s	2h 18m 34s
Mean							7:38	4:41	12:24
Median							7:28	5:05	12:35
Range							6:08	10:30	8:27

Weekday

DMA 26-
100

<u>Station</u> <u>(12)</u>	<u>Network</u>	<u>Market - Cities</u>	<u>DMA</u>	<u>Time</u>	<u>Date</u>	<u>Weekday</u>	<u>Local</u> <u>Min: Sec</u>	<u>NS</u> <u>Min: Sec</u>	<u>Total</u> <u>Min: Sec</u>
WSBT	CBS	Indianapolis	27	2300 - 2330	3.30.15	Monday	9:54	1:07	11:01
WTNH	ABC	Hartford - New Haven	30	1200 - 1230	3.30.15	Monday	6:10	5:46	11:56
KCTV	CBS	Kansas City	31	1700 - 1730	5.01.15	Friday	14:45	0:55	15:40
KSAT	ABC	San Antonio	33	0530 - 0600	3.17.15	Tuesday	1:45	4:59	6:50
KSTU	FOX	Salt Lake City	34	1700 - 1730	5.01.15	Friday	13:03	1:29	14:32
WTMJ	NBC	Milwaukee	35	2200 - 2230	3.31.15	Tuesday	10:16	4:22	14:18
KTNV	ABC	Las Vegas	41	2300 - 2330	4.22.15	Wednesday	12:26	1:46	14:12
WAVE	NBC	Louisville	49	0600 - 0630	4.01.15	Wednesday	7:25	4:33	11:58
KTUL	ABC	Tulsa	60	2200 - 2230	5.01.15	Friday	9:43	2:10	11:53
WINK	CBS	Ft. Myers - Naples	62	1200 - 1230	4.23.15	Thursday	4:45	5:18	10:03
WTOL	CBS	Toledo	76	0600 -0630	4.20.15	Monday	5:12	3:13	8:25
WCYB	NBC	Tri-Cities, TN-VA	97	1200 - 1230	4.23.15	Thursday	6:21	4:57	11:18
Total							1h 41m 51s	40m 35s	2h 22m 6s
Mean							8:40	3:17	11:56
Median							8:29	3:22	11:50
Range							12:24	4:51	8:50

Weekday

DMA 100-210

<u>Station (9)</u>	<u>Network</u>	<u>Market - Cities</u>	<u>DMA</u>	<u>Time</u>	<u>Date</u>	<u>Weekday</u>	<u>Local</u>	<u>NS</u>	<u>Total</u>
							<u>Min: Sec</u>	<u>Min: Sec</u>	<u>Min: Sec</u>
KFSM	CBS	Ft. Smith-Fay-Sprngdl-Rgrs	101	1200-1230	4.20.15	Monday	5:56	3:43	9:39
WMBF	NBC	Myrtle- Beach-Florence	102	2300 - 2330	4.23.15	Thursday	11:38	1:35	13:13
KLTV	ABC	Tyler-Longview-(Lfk- Ncgd)	108	2200 -2230	4.23.15	Thursday	14:17	1:31	15:48
KIVI	ABC	Boise	109	0630 - 0700	3.31.15	Tuesday	4:11	3:17	7:28
KELO	CBS	Sioux Falls (Mitchell)	110	1700 - 1730	5.1.15	Friday	12:19	0:00	12:19
KTUU	NBC	Anchorage	147	1700 - 1730	5.1.15	Friday	8:20	3:28	11:48
KIMT	ABC	Rochester-Mason C.-Austin	153	1200 - 1230	4.21.15	Tuesday	6:12	8:00	14:12
WABI	CBS	Bangor	156	1200 - 1230	4.22.15	Tuesday	17:19	0:00	17:19
KECI	NBC	Missoula	165	0600 - 0630	4.01.15	Wednesday	10:34	4:00	14:34
Total							1h 30m 46s	25m 34s	1h 56m 20s
Mean							10:34	3:43	13:13
Median							10:05	2:50	12:55
Range							13:08	8:00	8:20

Weekend

DMA 1-25

<u>Station (3)</u>	<u>Network</u>	<u>Market - Cities</u>	<u>DMA</u>	<u>Time</u>	<u>Date</u>	<u>Weekday</u>	<u>Local</u>	<u>NS</u>	<u>Total</u>
							<u>Min: Sec</u>	<u>Min: Sec</u>	<u>Min: Sec</u>
KABC	ABC	Los Angeles	2	1700 - 1730	3.22.15	Sunday	6:39	2:21	9:00
KCPQ	FOX	Seattle - Tacoma	14	2300 - 2330	4.19.15	Sunday	10:31	5:56	16:27
KXTL	FOX	Sacramento-Stkton-Modesto	20	0800 - 0830	4.25.15	Saturday	12:29	7:30	19:59
Total							29:39	15:47	45:26
Mean							10:31	5:56	16:27
Median							9:53	5:15	15:08
Range							5:50	5:09	10:59

Weekend

DMA 26-100

<u>Station (3)</u>	<u>Network</u>	<u>Market - Cities</u>	<u>DMA</u>	<u>Time</u>	<u>Date</u>	<u>Weekday</u>	<u>Local</u>	<u>NS</u>	<u>Total</u>	
							<u>Min: Sec</u>	<u>Min: Sec</u>	<u>Min: Sec</u>	
WJAR	NBC	Providence-New Bedford	53	1800 - 1830	3.29.15	Sunday	7:33	3:26	10:59	
KITV	ABC	Honolulu	69	0800 - 0830	4.25.15	Saturday	12:29	7:30	19:59	
KGUN	ABC	Tucson	71	1700 - 1730	3.29.15	Sunday	8:53	4:21	13:14	
							Total	28m 55s	15m 17s	44m 12s
							Mean	8:53	4:21	13:14
							Median	9:38	5:05	14:44
							Range	4:56	4:04	9:00

Weekend

DMA 101-210

<u>Station</u>	<u>Network</u>	<u>Market - Cities</u>	<u>DMA</u>	<u>Time</u>	<u>Date</u>	<u>Weekday</u>	<u>Local</u> <u>Min: Sec</u>	<u>NS</u> <u>Min: Sec</u>	<u>Total</u> <u>Min: Sec</u>
KLFY	CBS	Lafayette	124	0800 - 0830	4.25.15	Saturday	14:08	4:00	18:08
KRCR	ABC	Chico-Redding	132	2300 - 2330	4.25.15	Saturday	7:33	4:07	11:44
KMIR	NBC	Palms Springs	148	2100 -2130	4.19.15	Sunday	8:07	7:38	15:45
Total							29m 48s	15m 45s	45m 37s
Mean							7:33	4:07	11:44
Median							9:56	5:15	15:12
Range							4:56	4:04	9:00

APPENDIX VIII

WEEKDAY AND WEEKEND AGGRAGATES

<u>Weekday</u>	<u>DMA 1-25</u>			<u>Percent of Local Content in Newscast</u>
	<u>Local Content</u>	<u>News Service Content</u>	<u>Total</u>	59%
Total	1h 18m 06s	54m 32s	2h 12m 38s	<u>Percent of News Service Content in Newscast</u> 41%
Mean	7:28	5:08	12:36	<u>Ratio of Local Content to News Service Content in Newscast</u> ≈ 3:2
Median	7:25	4:37	12:24	
Range	6:22	10:30	8:29	
	<u>DMA 26-100</u>			<u>Percent of Local Content in Newscast</u>
	<u>Local Content</u>	<u>News Service Content</u>	<u>Total</u>	64%
Total	1h 28m 42s	39m 06s	2h 17m 48s	<u>Percent of News Service Content in Newscast</u> 36%
Mean	8:03	3:33	11:37	<u>Ratio of Local Content to News Service Content in Newscast</u> ≈ 3:1
Median	7:25	4:22	11:53	
Range	13:00	4:51	8:56	
	<u>DMA 101-210</u>			<u>Percent of Local Content in Newscast</u>
	<u>Local Content</u>	<u>News Service Content</u>	<u>Total</u>	78%
Total	1h 50m 19s	30m 43s	2h 21m 02s	<u>Percent of News Service Content in Newscast</u> 22%
Mean	10:01	2:47	12:49	<u>Ratio of Local Content to News Service Content in Newscast</u> ≈ 7:2
Median	10:32	3:17	13:13	
Range	13:08	8:00	9:51	

Range % Local Content / Newscasts - DMA = 19

Range % News Service Content/ Newscasts - DMA = 19

WEEKEND AGGREGATE

<u>Weekend</u>	<u>DMA 1-25</u>		<u>Percent of Local Content in Newscast</u>
	<u>Local Content</u>	<u>New Service Content</u>	66%
			<u>Percent of News Service Content in Newscast</u>
		<u>Total</u>	34%
Total	1h 26m 10s	43m 47s	2h 09m 57s
Mean	9:34	4:51	14:33
Median	9:15	4:57	14:12
Range	6:32	5:33	11:28
			<u>Ratio of Local Content to News Service Content in Newscast</u>
			≈ 3:2
			<u>Percent of Local Content in Newscast</u>
			60%
			<u>Percent of News Service Content in Newscast</u>
		<u>Total</u>	40%
Total	1h 05m 26s	44m 26s	1h 49m 52s
Mean	7:04	4:56	12:12
Median	7:05	4:21	10:59
Range	9:17	6:46	11:05
			<u>Ratio of Local Content to News Service Content in Newscast</u>
			2:1
			<u>Percent of Local Content in Newscast</u>
			61%
			<u>Percent of News Service Content in Newscast</u>
		<u>Total</u>	39%
Total	1h 00m 14s	38m 44s	1h 38m 58s
Mean	6:41	4:18	11:00
Median	7:30	4:00	11:07
Range	11:22	6:13	12:52
			<u>Ratio of Local Content to News Service Content in Newscast</u>
			≈ 2:1
			Range % Local Content/ Newscasts - DMA = 6
			Range % News Service Content/ Newscasts - DMA = 6

APPENDIX IX

LIST OF STATIONS CATERGORIZED BY DMA MARKET SIZE

CALL SIGN	AFFILIATION	DMA LOCATION	DMA RANKING
WNYW	FOX	New York	1
KABC	ABC	Los Angeles	2
WFLD	FOX	Chicago	3
WTXF	FOX	Philadelphia	4
WFAA	ABC	Dallas-Ft. Worth	5
KRON	CBS	San Francisco-Oak-San Jose	6
WJLA	ABC	Washington DC (Hagrstwn)	8
WAGA	FOX	Atlanta	9
KPRC	NBC	Houston	10
KPHO	CBS	Phoenix (Prescott)	11
WTVT	FOX	Tampa-St. Pete (Sarasota)	13
KCPQ	FOX	Seattle - Tacoma	14
KSTP	ABC	Minnieapolis - St. Paul	15
WSVN	FOX	Miami	16
KDVR	FOX	Denver	17
WOGX	FOX	Orlando-Daytona Bch-Melbrn	18
KXTL	FOX	Sacramento-Stkton-Modesto	20
KTVI	FOX	St. Louis	21
WTAE	ABC	Pittsburg	22
WBTW	CBS	Charlotte	24
WJZ	CBS	Baltimore	26
WSBT	CBS	Indianapolis	27
WTNH	ABC	Hartford - New Haven	30
KCTV	CBS	Kansas City	31
KSAT	ABC	San Antonio	33
KSTU	FOX	Salt Lake City	34
WTMJ	NBC	Milwaukee	35
KTNV	ABC	Las Vegas	41
WAVE	NBC	Louisville	49
WJAR	NBC	Providence-New Bedford	53
KATV	ABC	Little Rock - Pine Bluff	56
WTEN	ABC	Albany-Schenectady-Troy	58
KTUL	ABC	Tulsa	60
WINK	CBS	Ft. Myers - Naples	62
KITV	ABC	Honolulu	69

KGUN	ABC	Tucson	71
KETV	ABC	Omaha	74
WTOL	CBS	Toledo	76
WAFF	NBC	Hunstville-Decatur (Flor)	79
WCYB	NBC	Tri-Cites, TN-VA	97
KFSM	CBS	Ft. Smith-Fay-Sprngdl-Rgrs	101
WMBF	NBC	Myrtle Beach-Florence	102
KLTV	ABC	Tyler-Longview-(LfkN-Ncgd)	108
KIVI	ABC	Boise	109
KELO	CBS	Sioux Falls (Mitchell)	110
WATE	NBC	Augusta-Aiken	112
KLFY	CBS	Lafayette	124
KRCR	ABC	Chico-Redding	132
KTUU	NBC	Anchorage	147
KMIR	NBC	Palms Springs	148
KIMT	ABC	Rochestr-Mason City-Austin	153
WABI	CBS	Bangor	156
KTXS	ABC	Abilene	164
KECI	NBC	Missoula	165
WDAM	ABC	Hattiesburg-Laurel	167
KPLC	NBC	Lake Charles	174
KAIT	ABC	Jonesboro	181
KTWO	ABC	Casper-Riverton	196
KFXF	CBS	Fairbanks	202
KAVU	ABC	Victoria	203

APPENDIX X

LIST OF STATIONS CATERGORIZED BY STATION AFFILIATION

<u>ABC - 23 TOTAL STATIONS</u>	<u>LOCATION</u>	<u>DMA</u>
KABC	Los Angeles	2
WFAA	Dallas-Ft. Worth	5
WJLA	Washington DC (Hagrstwn)	8
WTNH	Hartford - New Haven	30
KSAT	San Antonio	33
KTNV	Las Vegas	41
KTUL	Tulsa	60
KLTV	Tyler-Longview-(Lfkn-Ncgd)	108
KIVI	Boise	109
KIMT	Rochestr-Mason City-Austin	153
KAVU	Victoria	203
KSTP	Minnieapolis - St. Paul	15
WTAE	Pittsburg	22
KATV	Little Rock - Pine Bluff	56
WTEN	Albany-Schenectady-Troy	58
KITV	Honolulu	69
KGUN	Tucson	71
KETV	Omaha	74
KRCR	Chico-Redding	132
KTXS	Abilene	164
WDAM	Hattiesburg-Laurel	167
KAIT	Jonesboro	181
KTWO	Casper-Riverton	196

<u>CBS - 13 TOTAL STATIONS</u>	<u>LOCATION</u>	<u>DMA</u>
KRON	San Francisco-Oak-San Jose	6
WBTV	Charlotte	24
WSBT	Indianapolis	27
KCTV	Kansas City	31
WINK	Ft. Myers - Naples	62
WTOL	Toledo	76
KFSM	Ft. Smith-Fay-Sprngdl-Rgrs	101
KELO	Sioux Falls (Mitchell)	110
WABI	Bangor	156
KFXF	Fairbanks	202
KPHO	Phoenix (Prescott)	11
WJZ	Baltimore	26
KLFY	Lafayette	124

<u>Fox - 12 TOTAL STATIONS</u>	<u>LOCATION</u>	<u>DMA</u>
WNYW	New York	1
WFLD	Chicago	3
WAGA	Atlanta	9
WTVT	Tampa-St. Pete (Sarasota)	13
WSVN	Miami	16
KDVR	Denver	17
WOGX	Orlando-Daytona Bch-Melbrn	18
KTVI	St. Louis	21
KSTU	Salt Lake City	34
WTFX	Philadelphia	4
KCPQ	Seattle - Tacoma	14
KXTL	Sacramento-Stkton-Modesto	20

NBC – 12 TOTAL
STATIONS

	<u>LOCATION</u>	<u>DMA</u>
WTMJ	Milwaukee	35
WAVE	Louisville	49
WCYB	Tri-Cities, TN-VA	97
WMBF	Myrtle Beach-Florence	102
KTUU	Anchorage	147
KPRC	Houston	10
KECI	Missoula	165
WJAR	Providence-New Bedford	53
WAFF	Hunstville-Decatur (Flor)	79
WATE	Augusta-Aiken	112
KMIR	Palms Springs	148
KPLC	Lake Charles	174

APPENDIX XI

LIST OF STATIONS CATERGORIZED BY DAY OF AIR

CALL SIGN	AFFILIATION	LOCATION	DAY OF AIR
WJLA	ABC	Washington DC (Hagrstwn)	Monday
WTNH	ABC	Hartford - New Haven	Monday
WBTW	CBS	Charlotte	Monday
WSBT	CBS	Indianapolis	Monday
WTOL	CBS	Toledo	Monday
KFSM	CBS	Ft. Smith-Fay-Sprngdl- Rgrs	Monday
KFXF	CBS	Fairbanks	Monday
WNYW	FOX	New York	Monday
WFLD	FOX	Chicago	Monday
WSVN	FOX	Miami	Monday
WOGX	FOX	Orlando-Daytona Bch- Melbrn	Monday
KSAT	ABC	San Antonio	Tuesday
KIVI	ABC	Boise	Tuesday
KIMT	ABC	Rochestr-Mason City- Austin	Tuesday
KRON	CBS	San Francisco-Oak-San Jose	Tuesday
WABI	CBS	Bangor	Tuesday
WTMJ	NBC	Milwaukee	Tuesday
KTNV	ABC	Las Vegas	Wednesday
KAVU	ABC	Victoria	Wednesday
WAGA	FOX	Atlanta	Wednesday
KDVR	FOX	Denver	Wednesday
WAVE	NBC	Louisville	Wednesday
KECI	NBC	Missoula	Wednesday
KLTV	ABC	Tyler-Longview-(Lfk- Ncgd)	Thursday
WINK	CBS	Ft. Myers - Naples	Thursday
WTVT	FOX	Tampa-St. Pete (Sarasota)	Thursday
WCYB	NBC	Tri-Cites, TN-VA	Thursday
WMBF	NBC	Myrtle Beach-Florence	Thursday

KTUL	ABC	Tulsa	Friday
KCTV	CBS	Kansas City	Friday
KELO	CBS	Sioux Falls (Mitchell)	Friday
KTVI	FOX	St. Louis	Friday
KTUU	NBC	Anchorage	Friday
WFAA	ABC	Dallas-Ft. Worth	Saturday
KSTP	ABC	Minnieapolis - St. Paul	Saturday
KATV	ABC	Little Rock - Pine Bluff	Saturday
WTEN	ABC	Albany-Schenectady-	
KITV	ABC	Troy	Saturday
KRCR	ABC	Honolulu	Saturday
KAIT	ABC	Chico-Redding	Saturday
KLFY	CBS	Jonesboro	Saturday
KSTU	FOX	Lafayette	Saturday
		Salt Lake City	Saturday
		Sacramento-Stkton-	
KXTL	FOX	Modesto	Saturday
KPRC	NBC	Houston	Saturday
WAFF	NBC	Hunstville-Decatur (Flor)	Saturday
KPLC	NBC	Lake Charles	Saturday
KABC	ABC	Los Angeles	Sunday
WTAE	ABC	Pittsburg	Sunday
KGUN	ABC	Tucson	Sunday
KETV	ABC	Omaha	Sunday
KTXS	ABC	Abilene	Sunday
WDAM	ABC	Hattiesburg-Laurel	Sunday
KTWO	ABC	Casper-Riverton	Sunday
KPHO	CBS	Phoenix (Prescott)	Sunday
WJZ	CBS	Baltimore	Sunday
WTFX	FOX	Philadelphia	Sunday
KCPQ	FOX	Seattle - Tacoma	Sunday
WJAR	NBC	Providence-New Bedford	Sunday
WATE	NBC	Augusta-Aiken	Sunday
KMIR	NBC	Palms Springs	Sunday

APPENDIX XII

LIST OF STATIONS CATERGORIZED BY DAY PART

CALL SIGN	AFFILIATION	DMA LOCATION	DAY PART
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AM

WBTW	CBS	Charlotte	0500 - 0530
KRON	CBS	San Francisco-Oak-San Jose	0500 - 0530
KSAT	ABC	San Antonio	0530 - 0600
KETV	ABC	Omaha	0600 - 0600
WSVN	FOX	Miami	0600 - 0630
WAVE	NBC	Louisville	0600 - 0630
KPRC	NBC	Houston	0600 - 0630
KECI	NBC	Missoula	0600 - 0630
WTOL	CBS	Toledo	0600 - 0630
KIVI	ABC	Boise	0630 - 0700
KITV	ABC	Honolulu	0800 - 0830
KDVR	FOX	Denver	0800 - 0830
KXTL	FOX	Sacramento-Stkton-Modesto	0800 - 0830
KLFY	CBS	Lafayette	0800 - 0830
WAGA	FOX	Atlanta	0900 - 0930

NOON

WJLA	ABC	Washington DC (Hagrstwn)	1200 - 1230
WTNH	ABC	Hartford - New Haven	1200 - 1230

KIMT	ABC	Rochestr-Mason City-Austin	1200 - 1230
WINK	CBS	Ft. Myers - Naples	1200 - 1230
WABI	CBS	Bangor	1200 - 1230
WFLD	FOX	Chicago	1200 - 1230
WCYB	NBC	Tri-Cites, TN-VA	1200 - 1230
KTVI	FOX	St. Louis	1200 - 1230
KFSM	CBS	Ft. Smith-Fay-Sprngdl-Rgrs	1200 - 1230

EVENING

KABC	ABC	Los Angeles	1700 - 1730
KTWO	ABC	Casper-Riverton	1700 - 1730
KELO	CBS	Sioux Falls (Mitchell)	1700 - 1730
KFXF	CBS	Fairbanks	1700 - 1730
KTUU	NBC	Anchorage	1700 - 1730
KGUN	ABC	Tucson	1700 - 1730
KCTV	CBS	Kansas City	1700 - 1730
WNYW	FOX	New York	1700 - 1730
WOGX	FOX	Orlando-Daytona Bch-Melbrn	1700 - 1730
KPHO	CBS	Phoenix (Prescott)	1800 - 1830
WTFX	FOX	Philadelphia	1800 - 1830
WJAR	NBC	Providence-New Bedford	1800 - 1830
WTAE	ABC	Pittsburg	1830 - 1900
WJZ	CBS	Baltimore	1830 - 1900

LATE
NIGHT

KMIR	NBC	Palms Springs	2100 - 2130
WFAA	ABC	Dallas-Ft. Worth	2200 - 2230
KTUL	ABC	Tulsa	2200 - 2230
KAVU	ABC	Victoria	2200 - 2230
KSTP	ABC	Minnieapolis - St. Paul	2200 - 2230
WTVT	FOX	Tampa-St. Pete (Sarasota)	2200 - 2230
KSTU	FOX	Salt Lake City	2200 - 2230
WTMJ	NBC	Milwaukee	2200 - 2230
WAFF	NBC	Hunstville-Decatur (Flor)	2200 - 2230
KATV	ABC	Little Rock - Pine Bluff	2200 - 2230
KLTV	ABC	Tyler-Longview-(LfkN-Ncgd)	2200 - 2230
KTNV	ABC	Las Vegas	2300 - 2330
WTEN	ABC	Albany-Schenectady-Troy	2300 - 2330
KRCR	ABC	Chico-Redding	2300 - 2330
KTXS	ABC	Abilene	2300 - 2330
WDAM	ABC	Hattiesburg-Laurel	2300 - 2330
KAIT	ABC	Jonesboro	2300 - 2330
WSBT	CBS	Indianapolis	2300 - 2330
WMBF	NBC	Myrtle Beach-Florence	2300 - 2330
WATE	NBC	Augusta-Aiken	2300 - 2230
KPLC	NBC	Lake Charles	2300 - 2330

KCPQ

FOX

Seattle - Tacoma

2300 -
2330

APPENDIX XIII

LIST OF STATIONS CATERGORIZED BY REGION

Northeast Region (9 Stations)

WTNH	ABC	Hartford-New Haven
KIMT	ABC	Rochester-Mason City - Austin
WABI	CBS	Bangor
WNYW	FOX	New York
WTFX	FOX	Philadelphia
WJAR	NBC	Providence-New Bedford
WTAE	ABC	Pittsburg
WTEN	ABC	Albany-Schenectady-Troy

South Region (25 Stations)

KSAT	ABC	San Antonio
WSVN	FOX	Miami
WAVE	NBC	Louisville
KPRC	NBC	Houston
KLFY	CBS	Lafayette
WJLA	ABC	Washington DC (Hagrstwn)
WBTW	CBS	Charlotte
WINK	CBS	Ft. Myers-Naples
WCYB	NBC	Tri-Cities, TN-VA
KFSM	CBS	Ft. Smith-Fay-Sprngdl-Rgrs
WOGX	FOX	Orlando-Daytona Bch-Melbrn
WJZ	CBS	Baltimore
WFAA	ABC	Dallas-Ft. Worth
KTUL	ABC	Tulsa
KAVU	ABC	Victoria
WTVT	FOX	Tampa-St. Pete (Sarasota)
WAFF	NBC	Huntsville-Decatur (Flor)
KATV	ABC	Little Rock-Pine Bluff
KLTV	ABC	Tyler-Longview (LfkN-NcgD)
KTXS	ABC	Abilene
WDAM	ABC	Hattiesburg-Laurel
KAIT	ABC	Jonesboro
WMBF	NBC	Myrtle Beach-Florence
KPLC	NBC	Lake Charles
WATE	NBC	Augusta-Aiken

Midwest Region (9 Stations)

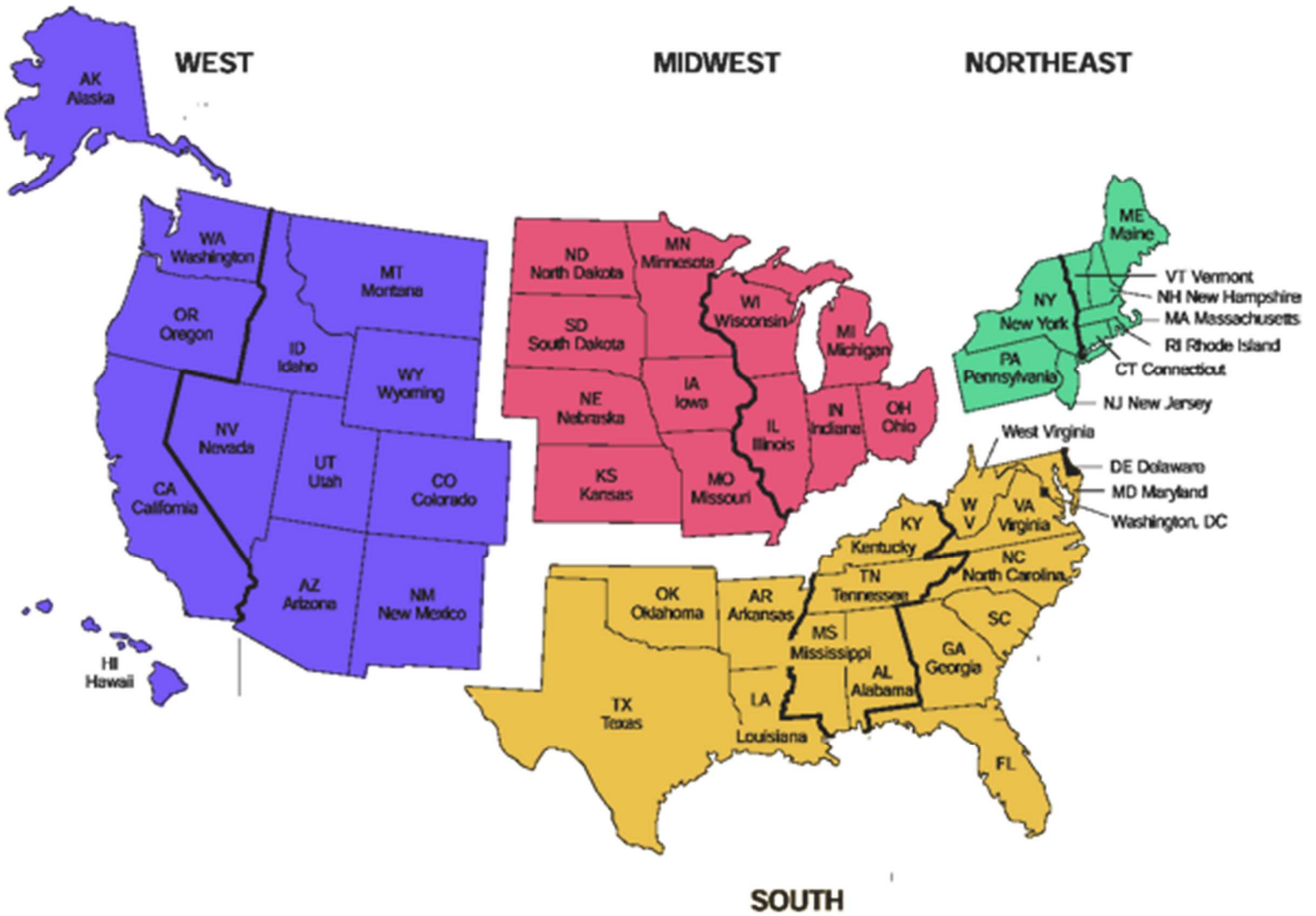
KETV	ABC	Omaha
WTOL	CBS	Toledo
WFLD	FOX	Chicago
KTVI	FOX	St. Louis
KCTV	CBS	Kansas City
KSTP	ABC	Minneapolis-St. Paul
WTMJ	NBC	Milwaukee
WSBT	CBS	Indianapolis

West Region (17 Stations)

KRON	CBS	San Francisco-Oak-San Jose
KIVI	ABC	Boise
KITV	ABC	Honolulu
KDVR	FOX	Denver
KXTL	FOX	Sacramento-Stkton-Modesto
KTWO	ABC	Casper-Riverton
KABC	ABC	Los Angeles
KECI	NBC	Missoula
KELO	CBS	Sioux Falls (Mitchell)
KFXF	CBS	Fairbanks
KTUU	NBC	Anchorage
KGUN	ABC	Tucson
KPHO	CBS	Phoenix
KMIR	NBC	Palm Springs
KSTU	FOX	Salt Lake City
KTNV	ABC	Las Vegas
KRCR	ABC	Chico-Redding
KCPQ	FOX	Seattle-Tacoma

APPENDIX XIV

MAP OF REGIONS



APPENDIX XV

LOCAL CONTENT COMPARED TO NEWS SERVICE CONTENT BY GEOGRAPHIC REGION

Northeast Region (9 Stations)

Minutes: Seconds

<u>Station ID</u>	<u>Affiliation</u>	<u>City</u>	<u>Local</u>	<u>News Service</u>	<u>Total</u>
WTNH	ABC	Hartford - New Haven	6:10	5:46	11:56
KIMT	ABC	Rochestr-Mason City-Austin	6:12	8:00	14:12
WABI	CBS	Bangor	17:19	0:00	17:19
WNYW	FOX	New York	6:55	7:55	8:55
WTFX	FOX	Philadelphia	8:48	7:52	16:40
WJAR	NBC	Providence-New Bedford	7:33	3:26	10:59
WTAE	ABC	Pittsburg	11:39	2:19	13:58
WTEN	ABC	Albany-Schenectady-Troy	4:25	5:09	9:34

South Region (25 Stations)

Minutes: Seconds

<u>Station ID</u>	<u>Affiliation</u>	<u>City</u>	<u>Local</u>	<u>News Service</u>	<u>Total</u>
KSAT 6:50	ABC	San Antonio	1:45	4:59	
WSVN 10:40	FOX	Miami	5:56	4:44	
WAVE 11:58	NBC	Louisville	7:25	4:33	
KPRC 8:31	NBC	Houston	5:57	2:34	
KLFY 18:08	CBS	Lafayette	14:08	4:00	

WAGA 8:37	FOX	Atlanta	6:12	2:24
WJLA 12:24	ABC	Washington DC (Hagrstwn)	9:27	2:57
WBTW 12:50	CBS	Charlotte	8:19	4:31
WINK 10:03	CBS	Ft. Myers – Naples	4:45	5:18
WCYB 11:18	NBC	Tri-Cites, TN-VA	6:21	4:57
KFSM 9:39	CBS	Ft. Smith-Fay-Sprngdl-Rgrs	5:56	3:43
WOGX 15:41	FOX	Orlando-Daytona Bch-Melbrn	10:19	5:22
WJZ 11:56	CBS	Baltimore	3:12	8:44
WFAA 14:12	ABC	Dallas-Ft. Worth	9:15	4:57
KTUL 11:53	ABC	Tulsa	9:43	2:10
KAVU 14:25	ABC	Victoria	10:32	3:53
WTVT 15:14	FOX	Tampa-St. Pete (Sarasota)	10:33	4:41
WAFF 10:51	NBC	Hunstville-Decatur (Flor)	7:14	3:37
KATV 8:54	ABC	Little Rock - Pine Bluff	5:50	3:04
KLTV 15:48	ABC	Tyler-Longview (LfkN-Ncgd)	14:17	1:31

KTXS 5:16	ABC	Abilene	2:46	2:30
WDAM 11:07	ABC	Hattiesburg-Laurel	4:35	6:32
KAIT 9:42	ABC	Jonesboro	7:30	2:12
WMBF 13:13	NBC	Myrtle Beach-Florence	11:38	1:35
KPLC 11:34	NBC	Lake Charles	3:51	7:43
WATE 9:05	NBC	Augusta-Aiken	7:35	1:30

Midwest Region (9 Stations)

Minutes: Seconds

<u>Station ID</u>	<u>Affiliation</u>	<u>City</u>	<u>Local</u>	<u>News Service</u>	<u>Total</u>
KETV 13:34	ABC	Omaha	6:57	6:37	
WTOL 8:25	CBS	Toledo	5:12	3:13	
WFLD 17:04	FOX	Chicago	4:11	12:54	
KTVI	FOX	St. Louis	5:17	3:39	8:46
KCTV	CBS	Kansas City	14:45	0:55	15:40
KSTP	ABC	Minneapolis - St. Paul	9:10	3:57	14:07
WTMJ	NBC	Milwaukee	10:16	4:22	14:18
WSBT	CBS	Indianapolis	9:54	1:07	11:01

West Region (17 Stations)Minutes: Seconds

<u>Station ID</u>	<u>Affiliation</u>	<u>City</u>	<u>Local</u>	<u>News Service</u>	<u>Total</u>
KRON 10:27	CBS	San Francisco-Oak-San Jose	7:38	2:49	
KIVI 7:28	ABC	Boise	4:11	3:17	
KITV 19:59	ABC	Honolulu	12:29	7:30	
KDVR 15:19	FOX	Denver	7:25	7:54	
KXTL 19:59	FOX	Sacramento-Stkton-Modesto	12:29	7:30	
KTWO 6:41	ABC	Casper-Riverton	4:09	2:32	
KABC	ABC	Los Angeles	6:39	2:21	9:00
KECI	NBC	Missoula	10:34	4:00	14:34
KELO	CBS	Sioux Falls (Mitchell)	12:19	0:00	12:19
KFXF	CBS	Fairbanks	9:01	1:16	10:17
KTUU	NBC	Anchorage	8:20	3:28	11:48
KGUN	ABC	Tucson	8:53	4:21	13:14
KPHO	CBS	Phoenix (Prescott)	11:42	6:21	18:03
KMIR	NBC	Palms Springs	8:07	7:38	15:45
KSTU	FOX	Salt Lake City	13:03	1:29	14:32
KTNV	ABC	Las Vegas	12:26	1:46	14:12
KRCR	ABC	Chico-Redding	7:33	4:07	11:44
KCPQ	FOX	Seattle - Tacoma	10:31	5:56	16:27

APPENDIX XVI

**LOCAL CONTENT COMPARED TO NEWS SERVICE CONTENT BY
GEOGRAPHIC REGION – AGRAGATE**

Northeast Region (9 Stations)

Total: 1:49:17 (hr: min: sec)

Local Content: 1:08:50

News Service: 40:27

Local Content: 63%

News Service: 37%

South Region (25 Stations)

Total: 4:59:42 (hr: min: sec)

Local Content: 3:15:01

News Service: 1:44:41

Local Content: 65%

News Service: 35%

Midwest Region (9 Stations)

Total: 1:42:26 (hr: min: sec)

Local Content: 1:05:42

News Service: 36:44

Local Content: 64%

News Service: 36%

West Region (17 Stations)

Total: 2:16:56 (hr: min: sec)

Local Content: 1:26:54

News Service: 50:05

Local Content: 63%

News Service: 37%

APPENDIX XVII

CONTENT COMPARED IN PERCENTAGE BY GEOGRAPHIC REGION

<u>Northeast Region (9 Stations)</u>	<u>Local</u>	<u>News Service</u>	<u>Total</u>
	63%	37%	
	1:08:50	40:27	1:49:17
<u>South Region (25 Stations)</u>	<u>Local</u>	<u>News Service</u>	<u>Total</u>
	65%	35%	
	3:15:01	1:44:41	4:59:42
<u>Midwest Region (9 Stations)</u>	<u>Local</u>	<u>News Service</u>	<u>Total</u>
	64%	36%	
	1:05:42	36:44	1:42:26
<u>West Region (17 Stations)</u>	<u>Local</u>	<u>News Service</u>	<u>Total</u>
	63%	37%	
	1:26:54	50:05	2:16:56

APPENDIX XVIII

ANOVA Test Results

Weekday Local Content in Seconds

(Each Time Represents One Station in Market)

<u>DMA 1-25</u>	<u>DMA 26-100</u>	<u>DMA 101-210</u>
415	594	356
251	370	698
458	105	857
567	885	251
372	616	739
633	746	500
356	445	372
445	583	1039
619	285	634
317	312	541
499	381	632

Summary of Data						
	<i>Treatments</i>					
	1	2	3	4	5	Total
N	11	11	11			33
ΣX	4932	5322	6619			16873
Mean	448.3636	483.8182	601.7273			511.303
ΣX^2	2362964	3081602	4519477			9964043
Std.Dev.	123.14	225.1048	231.6558			204.3914

Result Details				
<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	
Between-treatments	141826.6061	2	70913.303	$F = 1.78025$
Within-treatments	1195000.3636	30	39833.3455	
Total	1336826.9697	32		

The *f*ratio value is 1.78025. The *p*-value is .185948. The result is *not* significant at $p < .05$.

Weekday News Service Content in Seconds

(Each Time Represents One Station in Market)

<u>DMA 1-25</u>	<u>DMA 26-100</u>	<u>DMA 101-210</u>
277	67	223
774	346	95
169	299	91
177	55	197
144	262	0
281	106	208
284	273	480
474	130	0
322	318	240
219	193	76
271	297	233

Summary of Data						
	<i>Treatments</i>					
	1	2	3	4	5	Total
N	11	11	11			33
ΣX	3392	2346	1843			7581
Mean	308.3636	213.2727	167.5455			229.727
ΣX^2	1365810	614522	497173			2477505
Std.Dev.	178.8409	106.857	137.254			151.6516

Result Details				
<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	
Between-treatments	113531.0909	2	56765.5455	$F = 2.73608$
Within-treatments	622411.4545	30	20747.0485	
Total	735942.5455	32		

The f -ratio value is 2.73608. The p -value is .081004. The result is *not* significant at $p < .05$.

Weekend Local Content in Seconds

(Each Time Represents One Station in Market)

<u>DMA 1-25</u>	<u>DMA 26-100</u>	<u>DMA 101-210</u>
399	192	455
528	533	848
555	453	453
357	350	487
702	265	166
631	749	275
550	533	231
749	417	450
699	434	249

Summary of Data						
	<i>Treatments</i>					
	1	2	3	4	5	Total
N	9	9	9			27
ΣX	5170	3926	3614			12710
Mean	574.4444	436.2222	401.5556			470.741
ΣX^2	3116526	1926222	1789550			6832298
Std.Dev.	135.3921	163.4065	205.6478			180.7232

Result Details				
<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	
Between-treatments	150593.1852	2	75296.5926	$F = 2.58681$
Within-treatments	698590	24	29107.9167	
Total	849183.1852	26		

The F -ratio value is 2.58681. The p -value is .096084. The result is *not* significant at $p < .05$.

Weekend News Service Content in Seconds

(Each Time Represents One Station in Market)

<u>DMA 1-25</u>	<u>DMA 26-100</u>	<u>DMA 101-210</u>
141	524	90
472	118	240
297	206	247
154	184	458
381	309	150
356	450	392
237	261	463
450	397	132
139	217	152

Summary of Data						
	<i>Treatments</i>					
	1	2	3	4	5	Total
N	9	9	9			27
ΣX	2627	2666	2324			7617
Mean	291.8889	296.2222	258.2222			282.111
ΣX^2	904477	935592	767534			2607603
Std.Dev.	131.1892	135.0294	144.6658			132.8334

Result Details				
<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	
Between-treatments	7788.6667	2	3894.3333	$F = 0.20725$
Within-treatments	450974	24	18790.5833	
Total	458762.6667	26		

The f -ratio value is 0.20725. The p -value is .814256. The result is *not* significant at $p < .05$.

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