Revolutionizing the Newsroom: How Online and Mobile Technologies Have Changed Broadcast Journalism

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Abstract

This study interviewed journalists across the United States in 2013 to find out how online and mobile technologies have changed television journalism in the past decade and what new technologies and trends they expect in the future. Interviews with thirteen television journalists indicate that web presence and mobile apps are getting more important in most cases; the use of others' digital assets for both television broadcast and the web; use of the Internet and social networking to generate better stories; and an effort to reach out to younger audience. The results of this study also imply the need for journalists to learn new technology, change daily work habits, and adapt to new job requirements in order to maintain job security and succeed in their career.

I. Introduction

The field of communications changes constantly, from the introduction of the printing press, to radio, to television, to the Internet, to mobile, and beyond. In order to communicate effectively, especially in journalism, one must continue to adapt. Regardless, the interview is still the most widely accepted and practiced process in the journalism field.

The study uses interview method to take a closer look at how changing technology impacts the inner workings of television journalism companies and newsrooms. By asking current professionals how new technology has changed the television news profession in the past decade, and asking their opinions on the future of the industry, this paper tried to determine whether U.S. television journalism has made a massive move to online and mobile devices, making the job of journalists increasingly more dynamic and changing the fundamental duties of journalists to include these new elements.

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II. Background

In order to properly understand the future of television journalism, one must understand how it grew to where it is today. The past tells us that technology causes journalism to change. In the mid-nineteenth century, the telegraph allowed news publishers to gather and send information across the globe faster than ever before. By the early twentieth century, the camera could create photographic images of people and events that readers had never been able to see. In the past forty years, most afternoon newspapers have disappeared, people's primary news sources have shifted from paper, to television, to the Internet, and our ways of understanding the news has completely changed.

As Giles and Snyder explain, "We cannot take the future for granted . . . it is very difficult to determine what is around the next bend in the road—especially in a field as integrally connected with changes in culture, politics, technology and economics as journalism." As new technology is invented and becomes popular, many believe the old technology will go away, but rather the technology has changed and expanded over time. ³⁴ In particular, the Internet allows journalism to change, expand, and adapt with the advent of new technologies.

John Naughton explains this phenomenon in his book *A Brief History of the Future: The Origins of the Internet*:

The Internet is one of the most remarkable things human beings have ever made. In terms of its impact on society, it ranks with print, the railways, the telegraph, the automobile, electric power and television. Some would equate it with print and television, the two earlier technologies that most transformed the communications environment in which people live. Yet it is potentially more powerful than both because it harnesses the intellectual leverage which print gave to mankind without being hobbled by the one-to-many nature of broadcast television.⁵

Information about technology and media's future can be found from many sources beyond Naughton's book. For example, in November of 2013 the Wall Street Journal posted a video entitled "How is Mobile Consumption Changing Journalism?" in which top professionals at online reporting companies such as Circa, Buzzfeed, NewsCorp and Mashable were interviewed. Anthony De Rosa from the news app Circa explained there must be a change in newsrooms dealing with the online and mobile changes. "It takes a culture change and a shift in the newsroom," De Rosa said. "How do I take this story and make it really useful for someone who's on their phone? I think the newsroom itself has to take that information and synthesize it in a different way, and produce it in a different format." Raju Narisetti, the Senior Vice-President of Strategy News Corp, agreed. "We have to think of very different ways to engage them," he said. "I think that is where there's a little bit of a disconnect with newsrooms that are so focused on the journalism only without worry about the experience." These challenges and changes prompted this study to find out how professionals are adapting to the new technology.

III. Literature Review

Many studies regarding how changing technologies impact broadcast journalism were conducted in the early 2000s, when the Internet began to have a strong presence in the world of news media. Since its invention, the Internet has become the most popular means of communicating news, and has increasingly changed journalists' job and their impacts on their audience, along with the subsequent advent of mobile technology.

In 2001, Bardoel and Deuze further explored the endless technological possibilities of the Internet

¹Patricia L. Dooley, *The Technology of Journalism: Cultural Agents, Cultural Icons* (Northwestern University: Northwestern University Press, 2007). 1.

²Giles, Snyder, What's Next?, xi.

³Susan Zirinksy, Executive Producer, *48 Hours*, in a telephone interview with the author, November 1, 2013. ⁴Mark Effron, "Broadcast Journalism Not Dead, Just Changing," *TV Week*, 2010, http://www.tvweek.com/ news/2008/07/guest commentary broadcast jou.php (November 12, 2013).

⁵John Naughton, *A Brief History of the Future: The Origins of the Internet* (Great Britain: Weidenfeld & Nicolson, 1999), 22.

and how a new occupation and industry had been created: digital and online journalism.⁶ In another study, Deuze analyzed the first generation of news media online to find that online journalism was a "fundamentally different" type of journalism, particularly because it involved a new platform to share information that must constantly be kept in mind for journalists in the future.⁷

As Henry Jenkins correctly predicted in the 2001 MIT Technology Review, "... media will be everywhere, and we will use all kinds of media in relation to one another."8 Giles and Snyder also supported this prediction in Problems and Prospects of Journalism: What's Next? by compiling essays from experts in the United States who recognized how journalism would likely change with the Internet, and predicted it would be the future of news.9

Recent research on this topic has come from the Pew Research Center, which has focused on the impact of the Internet on local and network markets. Jurkowitz and Matsa from the Pew Research Journalism Project warned that though local television stations have become a "hot commodity" among large media companies, their strength has decreased because of trends that put them behind many other competitors. Television news is losing significant portions of its audience, particularly young viewers, and lagging in digital revenue.¹⁰ Furthermore, Sasseen, Olmstead, and Mitchell of the Pew Research Center described how journalists have become dependent on the technical industry and mobile giants in order to reach viewers. However, they explained that news, in general, still holds out hope because most audience members return to legacy newspapers and television stations for their information. 11

The literature review above shows that the destiny of news will be shaped by the future of online and mobile resources. The important question is how much media professionals understand the importance of online and mobile news and how much they are able to embrace them. To investigate this question, the author interviewed media professionals across the country.

IV. Methods

To explore the future of television journalism on the network and local level and provide insights of journalists, the author tried to understand the impact of the Internet and mobile capabilities and discover what news professionals expect to change with new technology and ideas in the future.

The author interviewed media professionals throughout the United States on the network and local television levels to ask about the industry's responses to mobile and online capabilities, their prediction on how the television industry will continue to change in the future. The following three questions were asked of all interviewees for analysis and comparison:12

- Q1. How is your job affected by online and mobile news? Are you required to have a web presence for your job?
- Q2. What is the greatest change to the newsroom since the introduction of online and mobile news?
- Q3. What's next? Will there still be traditional newscasts in the future?

Among twenty journalists contacted, thirteen responded to the author's interview requests: seven on

⁶Jo Bardoel and Mark Deuze, "Network Journalism: Converging Competences of Media Professionals and Professionalism," Australian Journalism Review (2001), 23.

⁷Mark Deuze, "Online Journalism: Modeling the first generation of news media on the world wide web" *First Monday* (2001).

⁸ Henry Jenkins, "Convergence: I Diverge," MIT Technology Review, June 1, 2001.

⁹Robert Giles and Robert W. Snyder, *Problems & Prospects of Journalism: What's Next?* (New Brunswick: 2001), xi.

¹⁰Mark Jurkowitz and Katerina Eva Matsa, "Despite Some Warning Signs, Local TV Stations Are Hot Commodities," *Pew Research Journalism Project,* August 5, 2013 http://www.journalism.org/2013/08/05/despitesome-warning-signs-local-tv-stations-are-hot-commodities/ (October 15, 2013).

¹¹Jane Sasseen, Kenny Olmstead, and Amy Mitchell, "Digital: As Mobile Grows Rapidly, the Pressures on News Intensify," *The State of the News Media 2013*, 2013, http://stateofthemedia.org/2013/digital-as-mobilegrows-rapidly-the-pressures-on-news-intensify/, (October 15, 2013).

¹²Dapzury Valenzuela and Pallavi Shrivastava, *Interview as a Method for Qualitative Research*, Southern Cross University and the Southern Cross Institute of Action Research.

the local level and six on the network level. Interviews were conducted in October and November, 2013, through email, telephone, or Facebook chat interviews.

The interview was chosen because this method is widely accepted as suitable for qualitative research. The qualitative research interview seeks to describe and understand the meanings of central themes in the life and world of the subjects. The interviewer's main task is to understand the meaning of what the interview-ees say.¹³

Again, this study uses interviews to evaluate and organize qualitative data on the impact of technology on newsrooms across the country and to predict what new technology may come next.

V. Findings

This section was organized based on interviewees' answers to the three questions asked above.

Job changes due to online and mobile news, including a web presence

Online and mobile technologies play an increasingly prominent role in television newsrooms, particularly on the local level. All but one journalist in this study emphasized the importance of having an online component along with an on-air news broadcast. Many of the local journalists explained their stations have gone "web first," which demonstrates how much the industry has changed from having only on-air broadcasts in the 1990s to web pages for most stations, to interactive web sites and mobile apps, which have become standard for many stations across the country.¹⁴ ¹⁵

On the local level, reporters are responsible for all on-air and web content regarding their story, including a print style web article. ¹⁶ ¹⁷ ¹⁸ At WVEC-TV in Norfolk, Virginia, one reporter explained how his mobile app is on track to getting more monthly views than his station's website, a sign of how quickly mobile devices have been adopted and become important in the distribution of television news. ¹⁹ At KLBK-TV in Lubbock, Texas, the general manager requires at least fifty local stories be posted online every day. ²⁰

On the network level, journalists bring a new value to their website by adding materials beyond the on-air broadcasts. For example, producers²¹ at *CBS This Morning* are encouraged to supply "web extras" to their stories, including parts of stories that did not make it on the air, but may be complementary to the final product online and on mobile platforms, including extra b-roll²² and parts of interviews.²³ Matt Samuels, broadcast associate at *CBS Sunday Morning*, however, explained that the Internet did not have as much of an impact on his work because the shows appeals to an older audience that does not have a strong affiliation with the web. Network producers also deal with complicated copyright issues on the Internet. Music, still photographs and footage licensed for particular news or feature segments are often cleared just for television broadcast, but not for the Internet. Therefore, some segments are restricted from the web. With that in mind, producers are now trying to secure rights and clearances for both their broadcast and online stories when negotiating for them.²⁴ According to Meggie Miao, producer at *CBS Sunday Morning*, she took the extra step to obtain all necessary rights and clearances to use all content online, too. "I try to negoti-ate all the rights to license the piece on air as well as online," she said. "For instance, the story I produced

¹³Stei*nar* Kvale, *InterViews: An Introduction to Qualitative Research Interviewing*, Sage Publications, 1996.

¹⁴Matt Howerton, in a Facebook message to the author, October 16, 2013.

¹⁵Drew Smith, reporter in an email message to the author, October 19, 2013.

¹⁶Reporters write the stories for the newscast including parts of interviews and research into their content. Also see one-man band.

¹⁷Print style is a form of writing an article that is written generally for the web or for a newspaper in Associated Press style.

¹⁸Janet St. James, in an email message to the author, October 17, 2013

¹⁹Nick Ochsner, in a Facebook message to the author, October 16, 2013.

²⁰Monica Yantosh, in a Facebook message to the author, November 5, 2013.

²¹Producers work with reporters, associate producers, and the executive producers to write and put together content for individual stories and/or for a cohesive newscast.

²²B-roll is the supplemental or alternate footage intercut with the main shot in an interview or documentary.

²³Andy Merlis, in an email message to the author, October 21, 2013.

²⁴Cathy Lewis, in an email message to the author, October 31, 2013.

is on surrealist painter Magritte. I had to obtain all the rights so we can post the story to the web, which has in turn gotten over 1600 Facebook recommends, lots of tweets, etc." Miao and other producers at the network level believe the rights issue must be resolved in order for their shows to truly succeed online.²⁵

On both levels, information is no longer held for on-air broadcasts first. When information is received, it is immediately confirmed and distributed online. This new norm challenges traditional news media to change the culture of reporting so that data and information get processed and made available instantly to the audience.

Today's viewers consume the news on multiple platforms.²⁶ Susan Zirinsky, executive producer of 48 Hours, mentioned the benefits from these changes, including the ability to share information with more people because of the wide variety of platforms available. Additionally, Zirinsky explained, everything has a second screen. This experience impacts television news drastically. The ability to interact with viewers while on the air increases communication and allows for additional information to be shared. It also provides the opportunity to build a new audience and expand the reach of the show.27

However, news professionals today are not solely using the Internet to share news content. All of those interviewed explained they use the Internet on a daily basis in order to look for story ideas, photos and facts. David Rothman, producer at CBS Sunday Morning, explained how he uses social networking and local affiliates to reach out and find characters for stories across the country.

I am constantly looking for stories/characters/facts online. I use Facebook/Twitter/Meetups to find characters in localities that I am travelling to- for example, I was working on a Tabasco story, and needed to interview Tabasco fans in New Orleans- so I asked both the local New Orleans affiliate and the official Tabasco Facebook administrators if I could post on their pages a "Call for Tabasco fans."

Conversely, Zirinsky described a different perspective on a journalist's web presence:

Am I required to have it? No. But it's like do you get up in the morning and brush your teeth? You know in the world today that's part of who we are. We have a web presence. We developed "Crimesider" the crime blog because we felt that there was no one in the space that was a true all purpose law and justice website. So I think it's not that somebody says you're required, it's just like wearing underwear. You know, you wouldn't leave home without it.

Web presence is strongly enforced on the local level. Every local journalist who was interviewed for this study, reporters and producers alike, is required to have a professional web presence for their jobs. On the network level, presence is not required but highly encouraged. Journalists today compete with social networks for attention from viewers. Shelly Slater, reporter and anchor from WFAA-TV in Dallas, Texas, explained her web presence as vital to her job because it allows her to reach out and connect with younger audience members about news on platforms like Facebook and Twitter. She can break into those demographics that use social media as primary sources for their information. 28 According to the Pew Research Journalism Project, thirty percent of United States adults consume news on Facebook, and seventy-eight percent of those adults mostly see news when they are on Facebook for other reasons.²⁹ Forty-five percent of Americans own a smart phone today. Of that forty-five percent, thirty-six percent get news on their device daily. These statistics are almost identical for thirty-one percent of Americans who own tablets. Thirty-seven percent of these tablet owners use their device to get news daily.³⁰ The Internet and mobile have become staples in many people's daily lives in the United States, and has changed their consumption of television news, particularly at the local level. The next question explores how this technology has changed the newsroom.

²⁵Meggie Miao, in an email message to the author, October 23, 2013.

²⁶Kenneth Olmstead, Mark Jurkowitz, Amy Mitchell and Jodi Enda, "How Americans Get TV News at Home," Pew Research Journalism Project. 2013. November 10. 2013.

²⁷Zirinsky, telephone conversation with the author.

²⁸Shelly Slater, in an email message to the author, October 22, 2013.

²⁹Amy Mitchell, Jocelyn Kiley, Jeffrey Gottfried and Emily Guskin, "The Role of News on Facebook: Common yet Incidental," Pew Journalism Project, 2013, http://www.journalism.org/2013/10/24/the-role-of-news-onfacebook/. (November 10, 2013).

³⁰Sasseen, Olmstead, and Mitchell, *The State of the News Media 2013*, 2013.

Changes to the newsroom

As a result of online and mobile news, big changes happened to content production in the newsroom. Matt Howerton, reporter at KWTX in Waco, Texas, called it a "balancing act," explaining that having to focus on the online and mobile content makes for a much more complicated day for local journalists. But, some stations have taken advantage of the online and mobile audience and created useful content opportunities for the reporter as well as the audience. At WVEC-TV in Norfolk, the reporters post a "mobile minute" for every story they write, producing 30-45 seconds of video and audio content for their increasing mobile audience. And Nick Ochsner, reporter at WVEC, believes it helps him improve as a journalist as well as provide more content for the audience. "It's a great tool during breaking news events where there's constantly new information to share," he said. "Instead of having to wait until the five o'clock broadcast or add new copy to a web article, I can shoot a new mobile minute that shows whatever new action is unfolding." Kirsten Boyd, producer at KOAA-TV in Colorado Springs has seen how online and mobile tools can save lives during natural disasters. "During the Waldo Canyon and Black Forest wildfires, there was an official hashtag that emergency managers were using to share information on spread, containment, road closures and evacuations," she said. "Twitter is critical for news gathering and we all monitor it by the minute for information."

In addition, news distribution speed has increased dramatically. But, many of the journalists in this study warned about the problem of the fast paced online news cycle. Being first can sometimes come at the expense of being accurate.³³

It is important to recognize the fact that Twitter and Reddit are not sources of news, they are sources of "information," and also, more to the point, speculation. It is very, very dangerous to look to Twitter for real information because anybody anywhere can tweet anything regardless of the truth. The race to be first is not worth being wrong, though there is a competitive edge to many people who work in the news business, so that is a lesson that some people end up learning the hard way. -Andy Merlis, Producer, *CBS This Morning*³⁴

To adapt to a changing work environment, many newsrooms have added a digital media team, a group of people hired to produce and manage online content, which has become the norm in many local stations and at the network level. Drew Smith, a reporter at WSPA-TV in Spartanburg, South Carolina, believes the digital team is an integral part of the newsgathering and dissemination process of information. The station's digital media team uses real time analytics to see viewing habits that have not been available even with sophisticated sampling and statistical analysis from companies like Nielsen. The newsroom is able to see how many people are online at once, what stories people are viewing, and how they got there. "It helps us figure out what's important to viewers and it helps the business side of things when determining the value of our product," Smith said.³⁵

Though online and mobile news have produced many benefits for the news industry, they have also brought challenges. One main challenge is the change to the daily workflow for journalists, particularly multimedia or one-man-band journalists. Across all market sizes, the trend toward hiring multimedia journalists or "one-man bands" who report, shoot, write and edit, shows no sign of slowing (see *Figure 1*). The "Shooting, editing, writing and tracking a package is such a time consuming process," Howerton of KWTX said. "Adding web and mobile updates is like adding more weight to a barbell you're dead lifting. The management becomes even more important to the journalist than it was before online and mobile technology. Journalists must keep people interested and present information the audience has not heard, which is difficult with the younger

³¹Howerton, Facebook message to the author.

³²Ochsner, Facebook message to the author.

³³St. James, email to the author.

³⁴Merlis, email to the author.

³⁵Smith, Facebook message to the author.

³⁶One-man-band journalists are journalists that write their own content, do their own research, and shoot and edit their own video for the air.

³⁷Deborah Potter, Katerina-Eva Matsa and Amy Mitchell, "Local TV: Audience Declines as Revenue Bounces Back," *The State of the News Media 2013*, 2013.

³⁸Howerton, Facebook message to the author.

³⁹Yantosh, Facebook message to the author.

demographic.40 41

Another prominent change is that once stories air, they are no longer "in the aether." Stories are shared and instantly put up online for viewer access. One editorial producer said:

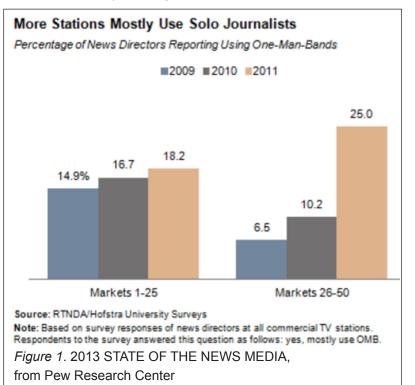
In the 1970s, when I began my career, first at local news and then at CBS, stories aired and that was it. If you missed it, you missed it. There was no DVR, no on-Demand, no "web-extra", no YouTube, no Internet at all. In the mid to late 70's few people even owned recording devices. No one recorded shows. You watched when it was on.

What this means is that now journalists need to be extra careful, not only with the information they report but with the visuals they choose. Segments can be looked at and listened to again and again, frames frozen, zoomed in, and scrutinized. People look for inaccuracies - from factual errors to misleading pictures and interviews. And they "share" their finds instantly with everyone, via Twitter, YouTube and other social media. Mistakes made in the past generally resulted in thoughtful, sometimes angry, letters to the editor. Comments and mistakes now go global. -Cathy Lewis, Editorial Producer, CBS Sunday Morning⁴²

It is clear from these comments that newsrooms have changed workflow. culture, job opportunities, and managerial processes due to the introduction of online and mobile news. The final question of this study asked professionals to predict what will happen in the future of television news

Changes expected in the future

Every journalist in this study believes there will still be a place for newscasts in the future, but the word "traditional" may no longer be associated with them. The newsrooms are already adapting to an idea of an "interactive newscast," where viewers can not only see the newscast from multiple cameras to see how the process works, but also chat with anchors and reporters live during the newscast. Television stations are embracing ways to include new technology in the newscast, and that will continue as long as technology changes.43 Monica Yantosh, reporter at KLBK



in Lubbock, Texas, observed television newscasts will still exist in small towns because many people still only have access to broadcast television and not the Internet.⁴⁴ Audiences are invested in their local and national anchors, trusting them for information, but also regarding them as friends, helping traditional newscasts to continue to succeed.⁴⁵ But, the success of television journalism across the country will continue to depend on adaptations to new technology.46

The mainstream news outlets must continue to provide more avenues for audience members to

⁴⁰Slater, email to the author.

⁴¹Samuels, email to the author.

⁴²Lewis, email to the author.

⁴³Smith, Facebook message to the author.

⁴⁴Yantosh, Facebook message to the author.

⁴⁵Boyd, Facebook message to the author.

⁴⁶Howerton, Facebook message to the author.

access content. "There is still a large market for old media, not just older people," Lewis of *Sunday Morning* said. "While young people do tend to get the majority of their news and information online, many still watch the old fashioned way, as evidenced by *CBS Sunday Morning*'s steadily increasing ratings among adults age twenty-five to fifty-four, the demographic that matters most to advertisers."⁴⁷

On the network level, producers are exploring ways to produce original content programming for video streaming services like Netflix and Amazon. Zirinsky of *48 Hours* predicts there will be an increase in competition for original digital programming in the future as more and more television production is published online. This competition, however, will create a new business model rather than a replacement of the traditional newscast. Relevision stations and shows are made stronger by their online and mobile presence because it allows them to connect with the younger demographic. Many people believed in the past that the introduction of radio would replace newspapers, that the introduction of television would replace radio, and that the Internet would replace all of them. But the professionals interviewed believe television newscasts cannot be replaced by new technology, rather the new technology will add to their audience's experience. The future of television journalism fluctuates and changes every day based on the introduction of and changes in technology. Successful adaptation to new forms, like applications and "mobile minutes," and enhancing old ones, like creating the interactive newscast, can keep television news alive and successful in the future.

VI. Conclusion

The television news industry has been transformed to integrate online and mobile channels into the traditional on-air channel. New job descriptions provide new opportunities for journalists, like one-man bands, with a variety of skills. To provide news, broadcast professionals search for content through the Internet on a daily basis. The Internet and mobile devices have already changed the newsroom by introducing new ways to connect with viewers and to communicate with other journalists within the work place. Being online has become a part of daily life for many people of the United States, and television news has taken a new position within a new digital landscape. As viewers continue to access content online and through mobile devices, television journalists must exploit a variety of technologies available to satisfy consumption patterns. If the definition of news is expanded by embracing everything from long form broadcast stories to one hundred and forty characters of text, it will create a new lucrative business model. Television news will continue to exist and thrive, but only if journalists continue to embrace changing technology as they have in the past century.

Some of the limitations of this study include concerns for external validity, or the generalizability of the study. Expanding the sample of this study to include more journalists across the United States would have given a more comprehensive understanding of the relationship between technology and television journalism. However, due to the qualitative nature of the research and limited time for the study, only thirteen journalists could be interviewed. These research subjects were selected based on personal relationships with the author through internships at CBS News's 60 Minutes, CBS Sunday Morning, WFAA-TV, and experience at Elon University student media organizations, including Elon Local News and Phoenix14 News.

Acknowledgments

This author would like to thank Dr. David Copeland for his kindness, devoted work and thoughtful guidance, without which the article could not be published. The author also appreciates numerous reviewers who have helped revise this article.

⁴⁷Lewis, email to the author.

⁴⁸Zirinsky, telephone conversation with the author.

⁴⁹Miao, email to the author.

⁵⁰Zirinsky, telephone conversation with the author.

⁵¹Slater, email to the author.

⁵²Zirinsky, telephone conversation with the author.

⁵³Ochsner, Facebook message to the author.

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