THE SOCIOLOGY OF PHOTOJOURNALISM: THE ADOPTION OF VIDEO BY NEWSPAPER STAFF PHOTOGRAPHERS

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The Sociology of Photojournalism: The Adoption of Video by Newspaper Staff Photographers

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ABSTRACT OF THE THESIS

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Diffusion of Innovations theory attempts to understand the adoption or the failure of adoption of a technology in a particular community by examining how members of the community perceive the technology’s complexity, compatibility, observability, and trialability, and the relative advantage they would gain by adopting the technology. In this research, the adoption of video technology by newspaper photography staff is examined using the lens of Diffusion of Innovations theory.

Still photojournalists’ traditional job task was the capture of a singular, still moment that tells the story. As newspapers extend their reach into online and mobile platforms and become converged media organizations, photo departments have taken on new duties, namely the recording of audio and video to provide content for online and television. This multi-method study used participant observation augmented by a nationwide survey to further understand the changes occurring in the photography departments in newspapers across the country.

Keywords: photojournalism, visual journalism, diffusion of innovations, sociology of journalism
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CHAPTER 1

INTRODUCTION

Newspapers are no longer tethered to their print platform, and print journalists nowadays can be multimedia storytellers in the age of Internet. The evolution from print to the Internet has thrown journalism into uncharted territory, with media companies trying to redefine themselves in this new information age. Newspaper photo departments are at the center of that struggle, and photojournalism, a century's old trade, is in upheaval. Just a few years ago, the newspaper photographers' job was relatively well-defined — to capture the decisive moment with still images. Now the profession is almost unrecognizable, as photojournalists are shooting and recording multimedia content for their newspapers' print, online and broadcast media platforms, producing audio slideshows, and feeding live video back to their newsroom. As audiences expect more visual stories and more video (Layton, 2007; Yaschur, 2011), the photojournalist has become a visual storyteller. Yet newspapers are cutting back on the photography staff (Paterson & Domingo, 2011; Weaver, 2007), and in some cases, cutting the department all together (Channick, 2013).

Several recent studies (Campbell, 2013; Santana & Russial, 2013; Yaschur, 2011, 2012) have specifically examined the changes taking place in the field of photojournalism. These studies have identified the expanded role of the photojournalist, who is now responsible for recording video and audio as well as still images. However, these studies relied on photo editors' opinion of adoption to video in their departments and on small sample sizes of photo editors or photojournalists (Campbell, 2013; Santana & Russial, 2013; Yaschur, 2011). These studies indicated that adoption of video was wide-spread, but the researchers called for further examination.

Although the adoption of video has been identified as a dramatic extension of photojournalists' work duties (Campbell, 2013; Santana & Russial, 2013; Yaschur, 2011), this study examines photojournalists’ perception of the use of video and stills in their work. This study also seeks to quantify the level of adoption by photojournalists by the aforementioned news tasks. A survey of the rank and file photojournalists instead of editors
in management positions is a more direct assessment of the process of adoption from the adopters themselves.

Previously studies (Campbell, 2013; Santana & Russial, 2013; Yaschur, 2011) have touched on the struggle between juggling video and still images. This study attempts to deepen our understanding of the type of content and the amount of assignments when multimedia recording is required. This addition acknowledges that adoption is not a simple yes or no question, but that the degrees of adoption should also be a part of the equation.

Yet in order to truly understand any rate and degree of adoption, we must better ascertain why photojournalists are adopting video technology into their work routine and taking on more responsibilities. Previous studies (Campbell, 2013; Santana & Russial, 2013; Yaschur, 2011) were unable to thoroughly examine the process and motivation behind the adoption of video. To do this, photojournalists' perception of specific attributes of video are examined in this research. Many media sociological studies offer detailed description of the news production process (Fishman, 1980; Ganz, 1980; Tuchman, 1978), but did not necessarily build upon mass communication theories. More recently, the literature that extends this tradition of looking at media sociology practices has augmented our theoretical knowledge in this area, using Diffusion of Innovations theory and others to better understand their findings. This study attempts to both provide description of phenomena and enhance communication theory.

Research on photojournalists' adoption to video builds on past diffusion studies (Rogers, 2003) by focusing on a population learning a technology new to their community. This examination of the adoption of video by photojournalists illustrates the significance of the perceived attributes of the innovation in the adoption process and can expand diffusion scholars' consideration of the re-invention or adaptation of the innovation in the adoption process.

In conclusion, this study provides a view into the world of photojournalism through a multi-method research design. First, a small sample of photojournalists is observed out in the field working on assignment. This direct observation of photojournalists while they work with video and still technology provides meaningful narratives and details that speak about the process and motivation of adoption of video. This observation is augmented with a nationwide survey of photojournalists about their new responsibilities, equipment, and
routines as well as how strongly they would rate video on certain attributes identified by Diffusion of Innovations theory (Rogers, 2003). This multi-method examination of the adoption of video furthers our understanding of the dramatic changes taking place in photojournalism currently.
CHAPTER 2

LITERATURE REVIEW

THE INCLUSION OF PHOTOGRAPHY INTO JOURNALISM WORK

Since 1839, still photojournalists have recorded important moments for us all to remember (Newhall, 1982). Dorothea Lange's image of the migrant mother, Rosenthal's photograph of the flag raising on Iwa Jima, Nick Ut's frame of children running from a napalm attack, or the many still images made of the World Trade Center towers on September 11, 2001 endure in our collective national memory. The advent of photography and its inclusion into daily reporting was a revolution in journalism and expanded what the public expected from news organizations.

Before sociologists and mass communications researchers entered the newsroom to study journalism work, Walter Lippmann (1922), a journalist, columnist and author wrote “[K]ey inventions [the modern daily newspaper, the world-wide press services, photography and moving pictures] have been made for bringing the unseen world into the field of judgment,” (p. 165). Lippmann argued that these technologies would improve the transmission of news, which was necessary to educate the public about events that occurred outside their immediate environment. He sensed he was writing at the beginning of a new epoch, the reign of the modern daily newspaper that gave the common man access to information in the form of written stories and images from around the nation and much of the world.

News images were not welcomed by all journalists who in some cases were more reticent than the general public to appreciate the appeal of news images (Zelizer, 1995). Some reporters and editors saw journalism as strictly a writing profession and felt photography was an accessory of the tabloids that would devalue their stories (Zelizer, 1995). Although there was resistance to news photography and its practitioners struggled for legitimacy in the newsroom, by the mid 1930s, photojournalism became a fundamental component of journalism (Zelizer, 1995).
Driven by the changing expectations of the reading public, new technology brought photography to the front pages of daily newspapers, and on New Year’s Day 1935, the Associated Press transmitted the first wire photo to their 24 member newspapers (Fulton, 1988). Within a year, the AP was competing with the New York Times and Scripps-Howard photography service (Fulton, 1988). The first issue of Life magazine hit the newsstands in 1936, and images taken during the depression by the Farm Security Administration’s photography department and World War II by war photographers elevated photography’s status in news (Zelizer, 1995).

With the arrival of smaller cameras, the flash bulb, and faster lenses, cameras became more portable, allowing photojournalists to work on shorter deadlines and in lower light (Zelizer, 1995). They could send a photograph over telephone lines to waiting editors in New York or Boston as fast as it took to transmit words for stories. The resistance to photography in journalism faded and photojournalism became a major story-telling tool on the pages of newspapers and news magazines throughout the world. Lippmann’s common man, now more visually oriented, expected to see images of important events.

**Sociologists Enter the Newsroom**

Lippmann's (1922) observations of news routines and the roles played by the reporter and editor in the newsroom foreshadowed studies that would be conducted 30 years later. Since his *Public Opinion* was published, researchers have entered the newsroom as qualitative observers and quantitative data collectors to study the work routines of journalists and the pressures placed on them in their construction of the news, an approach often called the sociology of news (Schudson, 1989). White (1950) and Breed's (1955) studies are often cited in academic journals as the foundation upon which contemporary scientific inquiry of the production of news has been built (Reese, Ballinger, & Shoemaker, 2001) because for the first time research was conducted in the newsroom to understand how decisions were made and what pressures influenced writers and editors while creating the daily newspaper. Concerned with the construction of news from the journalist's view, these studies were exceptions to the dominance of audience effects studies in mass communication research at the time (Reese et al., 2001). White (1950) and Breed (1955) were pioneers, placing the news worker squarely in the center of the frame to be studied. White studied the gatekeeper...
role of an editor at a medium-sized midwestern newspaper with quantitative analysis, and Breed's research documented pressures felt by journalists in the news making process from the newspapers' executives with qualitative depth interviews.

Gieber (1956) continued the sociology of news approach when he extended White's (1950) gatekeeper study to a larger sample. Gieber outlined the pressures most editors worked under when choosing news content. These pressures were described as a framework of forces stronger than the individual journalists subjective opinion such as deadlines, space, newspaper policy, traditions, and readers expectations. He called these forces a "strait jacket of mechanical details" (Gieber, 1956, p. 432).

Subsequent qualitative studies (Fishman, 1980; Ganz, 1980; Tuchman, 1973, 1978) conducted through the extensive observation and in-depth interviewing of news workers in the newsroom offered a more comprehensive analysis of the production of news. Both Ganz (1980) and Fishman (1980) spent many hours as participant observers watching how reporters covered the news. Ganz (1980) observed the journalists working in network television news and two national news magazines, while Fishman (1980) studied the routines of the reporters at a regional daily newspaper of 45,000 circulation. Both sociologists found evidence that journalism was very routinized in order to meet production deadlines. Ganz (1980) explained that these newsroom conventions and standards were easily disseminated in the factory-like pace of the newsroom. According to Ganz (1980), "because news organizations are assembly lines on which people must work together to manufacture a project against a deadline, they almost always generate conformity" (p. 98).

These sociological studies of the newsroom (Fishman, 1980; Ganz, 1980; Gieber, 1956; Tuchman, 1973, 1978) laid the ground work for understanding how technological advances such as the advent of digital photography, online news websites, or mobile media, affected newsroom routines, valued skill sets, and the content photojournalists collected in the field. When photography first became a tool used by journalists to convey the news to their audience, newsroom routines changed drastically and an entire new set of skills and responsibilities were valued in the newsroom. The introduction of still photography into daily journalism work required a transformation in the production of the newspaper, which included hiring journalists with new skills and duties. Deadlines and production had to be
changed to accommodate for the collection and production of a new type of content (still images) into a new daily journalism routine.

**Photojournalism Changes as the Technology Advances**

"[F]rom its inception, photojournalism has been driven by technology," argued Yaschur (2011) in *The Future of News* (p. 127) and photojournalism has always been susceptible to drastic changes in work routines following technological advances. This was witnessed by researchers in the 1970s as color photography spread to magazines' news pages (Ganz, 1980) and in the 1980s when pagination and the digitization of photography (scanning film into digital files) placed more production responsibilities into the hands of photojournalists and photo editors (Parker, 1988; Reaves, 1992; Russial, 1995). The 1990s brought two dramatic technological advancements when digital capture cameras made it possible to transmit an image without processing or scanning film (Bossen, Davenport, & Randle, 2006; Fahmy & Smith, 2003; Russial, 2000; Zavoina & Reichert, 2000) and the proliferation of the Internet forced news organizations' to begin publishing their content on the web (Boczkowski, 2004; Singer, 2001, 2003). Each technology revolution required an evolution in the work, routines, and responsibilities of the photojournalist (Kaufhold, Hinsley, & Lewis, 2011).

In the 1970s faster color printing technology made it possible for news magazines to publish color photographs on their news pages on a tighter deadline, and many journalists were resistant to this change because they felt that images were given priority to text in a news story (Ganz, 1980). Prior, color photographs had been reserved for the advertising pages only, because the color pages of most news magazines were printed earlier. As technological advances allowed color imagery to disseminate to the news pages of Time and Newsweek, these vivid news photographs brought about a dramatic change to the routines of journalists (Ganz, 1980). The color photographs were often chosen and placed in a double spread before the story was written, leaving some reporters feeling that the newsmagazine stories were becoming more image driven (Ganz, 1980). The splashy color on news pages jarred some traditional journalists, but competition between the two large news magazines and television news quickly brought about the wide use of color spreads in magazines (Ganz, 1980). "If Walter Cronkite has Zaire in color, the newsmagazines can't have it in black and
white," Ganz (1980) wrote, quoting a newsmagazine executive (p. 167). Again the cultural reservations of some journalists were ignored as publications responded to the evolving expectations of its readers.

At each step many were concerned with how changes would affect the respectability of the journalism profession, but competition continued to drive technological advances forward and newsroom and photography department routines adjusted, (Parker, 1988; Reaves, 1992; Russial, 1995). The development of pagination and the digitizing of photography during the 1980s caused much concern from journalists and photojournalists alike about possible ethical abuses of the new technology (Parker, 1988; Reaves, 1992; Russial, 1995). Russial and Wanta (1998) later noted that academic literature on this technological advance was largely about ethical issues involved in manipulation of digital photo content and less about how this development changed the work of the photojournalist.

In the mid to late 1990s, photojournalists transitioned from digitizing images to digital capture (Russial & Wanta, 1998). With the adoption of the digital camera into journalism work photojournalists' professional routines changed again, giving photojournalists the ability to send images from almost anywhere without processing and scanning film. Although the technology had arrived, it was not financially accessible to most photojournalists or their news organizations. Russial and Wanta (1998) noted that the cost of the original AP / Kodak digital cameras and their inconsistent quality kept this camera out of the hands of most photojournalists for several more years. “Cost and quality considerations largely restricted their use to coverage of high-profile news events, such as a presidential inauguration, a Super Bowl, or an Olympics,” (Russial & Wanta, 1998, p. 594).

Digital photography was more widespread in newsrooms by the end of the 1990s (Russial & Wanta, 1998). Once digital cameras were universally incorporated into journalism routines, several researchers turned away from studies about the fear of digital towards examining how photojournalists' work had been transformed with the advent of the digital camera (Bossen et al., 2006; Fahmy & Smith, 2003; Russial, 2000; Russial & Wanta, 1998; Zavoina & Reichert, 2000).

Through surveys of photography department managers, Russial and Wanta (1998) aspired to understand what skills would be in high demand in the future hiring of photojournalists. Although this study required photo editors to prognosticate on the future of
photojournalism, it did uncover some general short term trends. According to the 225 photo editors, directors of photography, or chief photographers who responded to Russial and Wanta's (1998) survey, traditional photojournalism skills (composition and visual storytelling) still remained high on the list of requirements for new hires, while darkroom skills fell dramatically, replaced by new computer skills such as software, digital archives and digital camera use.

Other studies concentrated not on future hires, but on the daily routines of photojournalists working with these new technologies (Fahmy & Smith, 2003; Russial, 2000). Methodologies differed from interviews with a small sample of prize winning photojournalists (Fahmy & Smith, 2003) to quantitative web surveys of over 225 newspaper photo directors (Russial, 2000). As expected, the common finding was that photojournalists' routines and occupational tasks had changed dramatically. Digital cameras had simultaneously improved their workflow by making it easier to meet deadlines and complicated their job by expanding the photojournalist's job duties.

Russial (2000) called this adjustment "technical job enlargement," meaning photojournalists were asked to take on new tasks after the introduction of the digital capture camera. In general, photojournalists' job responsibilities expanded to include more photo editing and photo production tasks (Bossen et al., 2006; Russial, 2000). Bossen et al. (2006) found that digital photography and pagination technology had transformed the structure of newsrooms and shifted production responsibilities. Each photojournalist was now responsible for the color correction and preparation of their images for publication that were responsibilities that previously fell on the workers in the "back shop."

Russial (2000) argued that newspaper work at its inception included production as well as journalistic work. "In the time of Ben Franklin, when printers were journalists, there was little distinction between production and journalistic tasks," (Russial, 2000, p. 80) and only later did production became a distinct department. Bossen et al. (2006) saw this technical job enlargement as a complete paradigm shift, while Russial (2000) viewed it as a return to journalism's roots when news workers did most of the production work themselves.

Photo departments reported an increase in their workload, but Russial (2000) found that they did not fear that these added duties would negatively impact the quality of their work. He attributed this to the historically strong connection photography departments have
had with technology changes and production roles (Russial, 2000), but it might also be explained by their viewing the added responsibilities in a positive light. These new technologies had improved some aspects of their work. Digital capture had made photojournalists' work easier as they transmitted photos from a location in a matter of minutes, skipping the processing and scanning steps (Fahmy & Smith, 2003). Also, these new occupational duties gave the photojournalist more control over their images from the moment of capture, through the editing process, color correction and preparation for publication (Fahmy & Smith, 2003).

THE APPROPRIATION OF ONLINE TECHNOLOGIES

In 1996, many newspapers began publishing a web version of their print product but took "divergent trajectories" (Boczkowski, 2004, p. 17) in their utilization of the new medium's potential. In his book, Digitizing the news: Innovation in online newspapers, Boczkowski (2004) resisted the technology imperative arguments for theorizing newspapers' innovation online and showed that "historicizing what are usually symbols of the future helps us to understand the extent to which the past influences the present and to evaluate the sources and implications of discontinuous trends" (p. 178). Boczkowski (2004) insisted that newsrooms were complex ecologies producing sociomaterial artifacts that could only be understood by observing the historical and social context from which they were born.

Using three very different online news innovations, Boczkowski (2004) demonstrated how the online artifact and its success was tied to the relationship between the online producers and the print journalists, the view the publication had of their audience as either technologically savvy or un-savvy, and the extent the newspaper tried to exert their traditional gatekeeping role on their users. With regard to imagery in online news sites, Boczkowski (2004) argued that the contrasting levels of use of photography slide shows and video in online newspapers could not be explained by technologically deterministic theories alone. Appropriation of these novel capabilities was not uniform but contingent on factors such as work routines, values and traditions already practiced in a newsroom and a newspaper's technical infrastructure and capabilities. Boczkowski (2004) reminded us that the acquisition of technology does not happen in a vacuum, and we must attempt to
understand the historical context and traditions of news organizations when examining their divergent achievements in online innovations.

**CONVERGED NEWSROOMS**

Historically, new technologies have been the harbinger of fresh threats and possibilities in journalism (Deuze, 2007). Some in the industry had reservations about more recent advances such as newspapers' websites and media convergence (Boczkowski, 2004; Deuze, 2007; Singer, 2004, 2006). Deuze (2007) observed:

> journalists tend to be cautious and skeptical towards changes in the institutional and organizational arrangements of their work, as lessons learnt in the past suggest that such changes tend to go hand in hand with downsizing, layoffs, and having to do more with less staff or resources. (p. 147)

As newspapers moved online, media companies began consolidating ownership in certain markets and bringing those entities together either under one roof or at least closer managerially in their production of news. Nearly all newspapers became multi-platform media or converged newsrooms because of their print and online product. "Journalism as it is, is coming to an end" declared Deuze (2007) regarding the development of media convergence in his philosophical book Media Work (p. 141). Deuze argued that convergence was revolutionary and would forever change journalists' occupational normative practices, news content and the consumption of the news by eliminating the boundaries "between the journalists and technicians, writers and camera operators, news gatherers and news processors, and between print, radio and television journalism," (Deuze, 2007, p. 141).

Media outlets were capable of technical convergence because of the digitization of audio, photography, video and other previously isolated technologies, and these innovations made it possible for these separate mediums to work together and share content. Yet again new technology threatened to bring with it novel threats and creative possibilities to journalists' work practices.

Singer (2004) defined convergence as "cooperation among print, television, and online journalists to tell a story to as many audience members as possible through a variety of delivery systems" (p. 4). Singer (2004, 2006) examined four newspapers which had joined forces with their parent companies' affiliated television news stations and websites: the Dallas Morning News, Tampa Tribune, Sarasota Herald-Tribune, and the Lawrence Journal-World. Reporters, photojournalists, TV anchors and producers were asked to work together
to produce stories published for all media platforms. Journalists who had competed against each other were now collaborating.

Using the diffusion of innovations and normative occupational issues as theoretical frameworks, Singer sought to understand the differences in each newsroom’s challenges and successes in their divergent attempts to converge disparate media outlets into one information company. Singer's (2004, 2006) study examined how media companies' deployment of physical and technical convergence resulted in very different degrees of cooperation ranging from merely sharing sources to sharing stories by producing multimedia versions for each platform. Often this would occur with promotion of the story across the company’s holdings.

Just a few years after Boczkowski (2004) found that newspapers' early exploration into the world of online content varied greatly with regard to their break from traditional newspaper practices, researchers were examining a larger conception of convergence in newspaper work that similarly resulted in divergent paths towards consolidation. Singer (2004, 2006) confirmed Boczkowski’s (2004) observation that media companies' incorporated new technologies into their work routines in very dissimilar ways and utilized those technologies for the creation of news products to very divergent ends.

Singer (2004, 2006) found that although there was some resistance to the changes, journalists were overwhelmingly positive about the ability to get their stories to a larger audience and to work with journalists from different backgrounds with distinct specialties. Singer (2004) found that after an initial learning curve, journalists on all sides were beginning to understand how to work together, which reduced the level of mistrust and angst. Singer (2004) argued that the revolution had become an evolution.

Just as Boczkowski (2004) found that more training and new tools for journalists were necessary for newspapers to take full advantage of the Internet, Singer (2004) observed that one criticism journalists had about working in converged newsrooms was that they received inadequate training to work in the other mediums participating in the converged partnership. "Lack of training obviously means fewer individual journalists exploring new tools," (Singer, 2004, p. 11). And in fact, it was found that to a growing degree of journalists were interested in continued training in new technology and multimedia tools (Weaver, 2007).
**STILL IMAGES VERSUS VIDEO**

While covering hurricane Katrina in 2005 David Leeson of the Dallas Morning News, extracted frame grabs from high-definition video he shot with a camcorder which were published as still images in the newspaper (Layton, 2007). Other newspapers such as the San Jose Mercury News and the Detroit Free Press followed suit (Layton, 2007). A remarkable technological advance, these high quality single frame grabs from video theoretically could be new threat to the viability of the still image in journalism work.

In addition, video is becoming more and more popular on news websites (Rainie, 2007; Yaschur, 2011). In a 2007 report, the Pew Internet and American Life Project found that among young broadband users, 85% watch or download videos (Rainie, 2007). "Broadband makes video a big part of the internet experience," stated Rainie (2007, p. 34). In that same year, Layton (2007) described an explosion of video on newspapers websites, often shot by still photojournalists. The Miami Herald photo editors said they published 15-18 stand-alone video pieces per week on its website, most shot and edited by staff photojournalists (Layton, 2007). On some staffs, newspaper photojournalists were being asked to produce video and still images for online publication. Digital single-lens reflex (dSLR) cameras that could also shoot high definition video were developed for professional use and still photojournalists were asked to perform both tasks while on assignment (Yaschur, 2011).

Another harbinger of the looming threat to still photojournalism came in what Kevin Myer of the Belfast Telegraph called a 'Gutenberg moment' (Brown, 2011). In November of 2007, Apple unveiled its iPhone to the world, and in 2009 came out with an iPhone that could record video (Brown, 2011). Just as Gutenberg had revolutionized book publishing in the 1500s, Jobs had extended our communication content using the ubiquitous cell phone. "The ease and diminishing cost of technology has enabled just about everyone to take photos and videos and publish them online, opening the floodgates of image dissemination and consumption" stated Yaschur (2011) about the future of visual journalism (p. 127). Now the technology was literally in everyone's hands to view and record video.

How this explosion of video will effect still photojournalistic story-telling remains to be seen, but when the long-standing leader in the field, international photo agency Magnum Photos, began to produce multimedia projects in 2004 with "Magnum in Motion," it became
apparent that still photojournalists needed to appropriate some video in their daily work routines (Yaschur, 2011). Evidence that still photojournalists were adjusting to their publications' demand for online video content was the inclusion of a new category for multimedia projects in the acclaimed World Press Photo annual contest in 2011 (Yaschur, 2011).

Despite photography’s weighty history on the front pages of America’s most popular news publications, still photojournalists working for newspapers or wire agencies are now facing considerable threats to their professional identity as capturers of the singular, decisive moments of our time. Society is becoming increasingly visually oriented and news consumers expect to see more visuals of breaking news events (Layton, 2007), yet many media organizations are cutting back on their photography staffs (Weaver, 2007; Yaschur, 2012). In May 2013, the Chicago Sun Times laid off its entire staff of 28 photojournalists, stating the growing importance of video in their future news coverage (Channick, 2013). In a released statement, newspapers executives said:

The Sun-Times business is changing rapidly and our audiences are consistently seeking more video content with their news. We have made great progress in meeting this demand and are focused on bolstering our reporting capabilities with video and other multimedia elements. The Chicago Sun-Times continues to evolve with our digitally savvy customers, and as a result, we have had to restructure the way we manage multimedia, including photography, across the network. (Channick, 2013)

While the Chicago Sun-Times placed video recording duties on reporters and freelance videographers, it is the still photojournalists in many other newsrooms who are providing this multimedia content (Yaschur, 2011, 2012). Photojournalists are experiencing an increase in workload and pressure to gain expertise in other mediums such as audio-slide shows and video (Yaschur, 2012), and as the number of slide shows and videos on news websites increases (Layton, 2007), it is usually the still photographers in a news organization who are asked to record this content which is time-intensive (Yaschur, 2012).

Job titles have adjusted to reflect these additional duties and the change in news content photojournalists now produce. Newspapers now hire “visual journalists” and “multimedia reporters” (Yaschur, 2012) who carry audio and video equipment along with their still cameras. Some known as ‘backpack journalists,’ are expected to record many types of media for a story that will run in print and on a website (Hinsley & Schmitz Weiss, 2011).
Shooting video, stills and recording audio requires not only a stockpile of equipment and extra training but also the juggling of roles while on assignment. These additional responsibilities often take photojournalists away from what used to be their primary role: still image story-tellers (Yaschur, 2012).

Few researchers have examined how these added tasks have affected photojournalists' job satisfaction, but Yaschur (2012) found that photojournalists who embrace the new technologies are generally happier with their jobs. But according to her study, those individuals are the minority. "Not surprisingly, photojournalists like making photos," Yaschur (2012) explained (p. 82). Photojournalists surveyed said they enjoyed shooting photos for the web and print and producing photo galleries, while only a small percentage appreciate producing slideshows and videos (Yaschur, 2012). In order to better understand the future of visual journalism, Yaschur (2012) recommended longitudinal studies “to track the continuing evolution of photojournalists’ roles,” (p. 82). Newsroom routines are dramatically changing to keep up with the development of new technologies, and snap shot studies done at a single moment in time cannot give us the longer view of these changes, but they can show us the direction in which they are moving.

In Santana and Russial's (2013) 2009 survey of newspaper photo editors, 60 percent reported that all the photojournalists on their staffs shot video, and about 42 percent of the photo editors reported that their papers had staff videographers. This study suggests that video technology has been adopted extensively by most newspaper photojournalists, but because Santana and Russial's (2013) study had a small sample of only 113 photo editors, they recommended a survey of rank and file photojournalists to get a better sense of the actual extent to which video has taken over the job responsibilities of the still photojournalist.

Early news production research did not include photojournalism in the scope of study, but recent research shows that the routines of photojournalists change dramatically with every technological advancement in visual media (Bossen et al., 2006; Fahmy & Smith, 2003; Ganz, 1980; Kaufhold et al., 2011; Parker, 1988; Reaves, 1992; Russial, 1995, 2000; Zavoina & Reichert, 2000). Journalism is currently going through what is arguably the most transformative change since the invention of the printing press which may affect photography departments more than any other corner of the newsroom. Although we know that many editors are interested in and encouraging the recording of video content for their online, or
broadcast platforms (Santana & Russial, 2013; Yaschur, 2011, 2012), it is not known to what extent video technology has spread through photography departments. More specifically, how many photojournalists are recording video, how are they juggling video with their traditional role of shooting still images, and finally, why are they adopting, or not adopting video into their work? This study will contribute to the existing body of research in photojournalists' changing work routines in today's converged media landscape by answering these questions.

**THEORETICAL FRAMEWORK: DIFFUSION OF INNOVATIONS**

In order to study the motivations or reservations for adopting video, a new technology to this population, this research employs the theoretical framework of Rogers’ (2003) Diffusion of Innovations. The Diffusion of Innovations theory was formalized following a famous rural sociology study by Iowa State University professor Bryce Ryan and graduate student, Neal Gross published in 1943 on the adoption of hybrid corn among Iowa farmers (Rogers, 2003). This study became the foundation for thousands of subsequent diffusion studies. Everett Rogers first consolidated diffusion research and outlined the theory in his seminal work, Diffusion of Innovations (1962) now in its 5th edition (2003). Since Ryan and Gross applied the theory to rural sociology, Diffusion of Innovations theory has been applied across multiple disciplines including communications and media studies.

Diffusion of Innovations seeks to explain a special type of social process of change: the acquisition or rejection of a new technology in a specific community. As the theory stipulates, the technology does not have to be new and can be an existing technology, as long as it is new to the community studied. Video technology is an example of already existing technology that is new to a specific community, newspaper still photojournalists in this case.

Diffusion does not occur in a vacuum, but within a social system consisting of community members, adopters, opinion leaders, and outside change agents. The system of study in diffusion research can be made up of members of an organization, community, work place or other collective of people. It is made up of individual members who are working to solve a problem or accomplish a common goal such as increasing a crop yield or forging a future for a newspaper media company in the Internet age. The structure of the system has a major and direct effect on the diffusion process and can help facilitate or slow down the
innovations' adoption within the community, known as system effects. All systems establish norms of behavior, expectations and values, and can have leaders who are innovators or leaders who are resistant to change. All these variables are the particular ecological conditions of that system.

Adoption is defined as the process of change by an individual or single unit of analysis, while diffusion is the spontaneous or planned expansion of adoption of a technology by the entire community. In this case, the unit of analysis is the individual staff member of a newspaper photography department, while the community is all photography department staffers who record content, which includes some photo editors, staff photojournalists, videographers, visual journalists, multimedia journalists or visual content providers, all working under the newspapers' photography department umbrella.

The rate of diffusion in diffusion research is illustrated by a graph of time and innovativeness of the single units of analysis, organizing the units into different groups according to the time of adoption: innovators (first 2.5% of population to adopt an innovation), early (next 13.5%), early majority (following 34%), late majority (next 34%), and finally the laggards (the last 16%). Diffusion studies show that members of each of these categories have many characteristics in common (Rogers, 2003). The percentage of adoption by individuals or single unit of analysis describe the technology's overall diffusion rate within a community and creates an s-shaped curve over time. By plotting the percentages who have adopted a technology one can describe how extensive the diffusion of that technology is within the community.

Studies show that objective attributes of an innovation have little influence in the rate of diffusion of the technology among a community, except for perhaps those who adopt technology at the fastest rate, the innovators. What have more affect is how the individuals perceive the attributes of the technology, subjectively. These attributes are: relative advantage, compatibility, complexity, observability, and trialability. Relative advantage ranks high when an individual believes that by adopting the technology they will gain an advantage over the competition or other co-workers. This could be expressed by more job security, the ability to do their job better, or by improving their image in their work place and within the industry.
Compatibility is the degree that a person perceives that the technology fits well with their work style, flow, and routine. A technology is compatible if it is perceived to be consistent with the already existing norms and values of its potential adopters. The adoption of a technology that is not perceived as compatible often requires the additional adoption of a new value system and a change in the work place norms, which often takes longer. Rogers believed that perceived compatibility and relative advantage were particularly important in predicting an innovations' rate of adoption within a community.

Other contributing attributes include perceived complexity of a technology, which was how easily people believed the technology was to learn and implement. If an innovation was seen as difficult to understand, learn, or use, it often was rejected or its diffusion curve was slower. Observability is the visibility of the technology in the work place. Often this leads to clusters of adoption, where the people who have adopted the technology were able to see its use and witnessed the results. Trialability is the degree that the technology can be tried on a smaller scale than full adoption. If the technology can be experienced and experimented with, generally there is a higher rate of adoption.

An important dimension of the diffusion process was added to Diffusion of Innovations studies in the 1970s, the idea of re-invention of a technology to better fit community members' needs. This is the modification of the technology itself by a user or users in the process of adoption and implementation. The ability to re-invent an innovation by the potential adopters can improve a technology's measurement on the perceived compatibility, relative advantage, and complexity scales, and increase its chance of adoption. It has also been found that an innovation diffused more rapidly and was more likely to be sustained when it could be modified by adopters (Rogers, 2003), an important dimension when considering the adoption of video by still imagers in this study.

Diffusion of Innovations requires discussion of these attributes of the technology through communication channels within the community. Homophily occurs when two or more individuals in a communication channel are similar, belong to the same groups, live or work near to each other, share the same interests, and are alike with regard to education, socio-economic level, and other demographic characteristics. Homophily speeds up the diffusion process because communication of the technology is more effective between people who share the community's subcultural language, common meanings and values. Yet, there
is always a degree of heterophily present in the communication process by virtue of there being an adopter and potential adopter involved. Rogers explained that the ideal situation is the two individuals discussing the technology be very similar on all variables except adoption.

In the case of Iowa farmers in the 1940's, these communication channels were primarily interpersonal, face-to-face contacts between farmers or between farmer and salesman, but Rogers’ acknowledged in later editions of his book that these channels have changed in the digital age of the Internet. Now communication between members of a community does not necessarily require close proximity, and important diffusion communication can also take place via email, social media sites and blog posts. Therefore meaningful diffusion discussions can occur between members of a community that do not directly work together but share similar interests in that technology.

The process of adoption is called the innovation-decision: when an individual seeks information about the technology to better understand the advantages and disadvantages of adoption. Each person may go through the stages of knowledge, persuasion, decision, implementation, to finally reach confirmation. The rate of adoption is how long it takes to go through these stages towards either adoption or rejection of the technology. Yet, this process of adoption can be very different depending on the dynamic of the system structure and who has the responsibility for the final decision. In optional innovation-decision, the choice to adopt or reject can be made by each individual unit, or person. This type of innovation-decision is the least constrained by outside factors. In collective innovation-decisions, to adopt the technology is determined by a consensus among the systems' members, more controlled by majority than the individual. The final type is authority innovation-decision, when the choice is made by relatively few in a system who have power or technical expertise.

Therefore, many different variables must be taken into consideration when studying the diffusion of any technology within a social system. First, the unit of analysis, the social system, the type and structure of that social system must be established. Then an analysis of the individuals' perception of the technology's five attributes and re-inventiveness, the system members' level of homophily, and the type of innovation-decision can all be analyzed to account for the degree of adoption of the defined technology.
**RESEARCH QUESTIONS AND HYPOTHESES**

Based on this theoretical framework, this researcher conducted a sociological inquiry into the daily routines and job responsibilities of newspaper photojournalists as they work in the field on assignment with specific regard to the adoption and role of video and audio in still photographers’ daily journalism work, followed by a nationwide survey to quantify and generalize findings. The ultimate goal of this study was to acquire a deeper understanding of the future viability of the singular image in future news media work by answering these research questions and hypotheses:

- **RQ1:** To what extent were photojournalists recording video and audio in addition to their traditional task of capturing still images on assignment?
- **RQ2:** How much of the adopters' time was being spent on video versus still images?
- **RQ3:** What equipment did photojournalists carry while on assignment to help them manage these additional work responsibilities? Were video cameras, still cameras with video capabilities, and tripods compulsory equipment for all photojournalists?
- **RQ4:** How did adopters (e.g. photojournalists) juggle these new tasks with their traditional tasks and incorporate them into their work style while on assignment?

Based on the Diffusion of Innovations attributes of an innovation and the innovation-decision process, the following hypotheses are presented:

- **H1:** Adopters will perceive greater relative advantage of video, when compared to non-adopters.
- **H2:** Adopters will perceive greater compatibility of video, when compared to non-adopters.
- **H3:** Adopters will perceive video as less complex, when compared to non-adopters.
- **H4:** Adopters will perceive greater observability of video, when compared to non-adopters.
- **H5:** Adopters will perceive greater trialability of video, when compared to non-adopters.
- **H6:** Demographic characteristics will be statistically significant among adopters versus non-adopters of video.
CHAPTER 3

METHODOLOGY

To further understand the changes, pressures, and adoption of video technology in newspaper photography departments, a multi-method study was conducted. First, a small group of photojournalists were observed while on assignment using the participant observation method, followed by a quantitative nationwide survey sent to newspaper photography staff who collect visual content on assignment. A multi-method technique can test, confirm and strengthen the findings from both stages of research (Babbie, 2010; Lindlof & Taylor, 2002). The survey of professional newspaper staff photojournalists provided external validity, while the qualitative phase provided detailed adoption narratives based on direct observation and helped the construction of a valid and relevant questionnaire written in the natural language of the community of study.

ETHNOGRAPHIC RESEARCH

In the second volume of Making Online News, Paterson and Domingo (2011) argued for more ethnographic, exploratory studies of the digital newsroom to better understand the process of producing news content in the age of the Internet. The ethnographic method, as defined by Paterson in the introduction to the first volume, occurs when the researcher studies a culture by spending time directly observing behavior in the anthropological tradition. In the case of the study of journalists and journalism, a researcher who conducts an ethnography has "direct and profound contact with the news workers, their working environment and their culture" (Paterson & Domingo, 2008, p. 9). Paterson and Domingo called for a return to this method of research that was highly respected in the 1970s, producing seminal studies (Fishman, 1980; Ganz, 1980; Tuchman, 1973, 1978) which helped develop mass-communications theories still used today to understand the creation of news. Domingo argued that these and other ethnographic studies of news production "created a solid theoretical corpus to describe rules, roles, and processes and analyze their interrelations and consequences" (Paterson & Domingo, 2008, p. 18).
Nearly half a century after these media sociology studies were conducted, they have lost their relevance as digital newsrooms bear little likeness to the newspapers and newsmagazines of the late 1960s and 1970s. According to the Project for Excellence in Journalism by the Pew Foundation (2007) "the transformation facing journalism is epochal, as momentous as the invention of television or the telegraph, perhaps on the order of the printing press itself." With the dramatic changes that have occurred in the occupation of reporter, photojournalist and editor with the incorporation of digital into every media realm and the transfer of content to the Internet, Paterson and Domingo (2008) argued that media scholars must return to the source and directly observe journalists producing the news in their altered working environment that is the postmodern, digital, converged newsroom.

Convergence, as defined by Singer (Paterson & Domingo, 2008) is the shift from a mono-media platform to cross platform production with content involving more than one medium. Essentially all newsrooms are converged under this definition, as Singer explained that convergence occurred even with newspapers with no external partners if they had an online presence. Newspapers with even a simple website are considered converged, as they convert their static textual and photographic content to the more liquid Internet medium. “Given the rapid development of broadband and video technology, the addition of a website to the news mix makes nearly all journalists cross-platform storytellers” (Paterson & Domingo, 2008, p. 157).

**ETHNOGRAPHIC STUDY OF PHOTOJOURNALISTS**

In order to understand how these drastic changes have affected news work, more specifically the routines and responsibilities of photojournalists, researchers must return to exploratory research methods such as participation observation, case studies, and in-depth interviews (Paterson & Domingo, 2008, 2011). These qualitative methods provide the researcher a wider scope of inquiry with the flexibility to change the direction of examination after the discovery of unexpected results (Babbie, 2010). Of these qualitative methods, participant observation places the researcher in the rich context of where the work is conducted directly witnessing what they are examining and does not rely on subjects' honest self-reporting.
Ethnographic research of news production has traditionally taken place within the newsroom (Fishman, 1980, Ganz, 1980; Tuchman, 1973, 1978), thereby omitting the collection of visual images - static or moving - that appeared in newspapers' pages and now on news organizations' websites. In the case of photojournalists, the work place is not in the newsroom, but in the field where photojournalists capture still images and/or record audio and video. Not only was the recording of visual content overlooked during the first wave of ethnographic studies in the 70s, but as we are considering the changing routines of news workers, a close examination is required of the photojournalist whose expanded tool-kit will change journalism forever.

**Observations and Interviews**

The scope of this study focused on the original capture and recording of visual content and not on computer work in the post-production preparation of that visual content for publication. This specific focus was chosen because the amount of computer work (post-production) done by the photojournalists differs greatly depending on the staff size and budget of a media organization and is not necessarily an indicator of the recent changes in the converged media landscape.

**Population**

This researcher followed four photojournalists who incorporated video in their work and were therefore adopters of such technology. Non-adopters shooting only still images were not observed at length because the interaction of interest to this researcher was between the photojournalist and video technology. All four photojournalists work in the southern California area: three at a medium-sized newspaper starting a broadcast component and one freelance photojournalist who primarily works for an online media organization and a wire service. Additional short interviews were done with a still photojournalist who works for a larger newspaper, a non-adopter photojournalist at a medium-sized newspaper, a former still photographer now turned videographer, and a director of photography at a mid-sized newspaper, all working in southern California as well.

These observations began without a specific focus beyond viewing photojournalists working on assignment juggling the collection of still images and video. Initial observations helped identify certain items of analysis to be further examined in follow up observations and
interviews such as efforts by photojournalists to maintain the integrity their still images while incorporating video technology into their work. These observations provided detailed description of the routines, struggles, efforts, and failures of these photojournalists trying to work with video and other equipment that could not be gained from a survey.

These photojournalists were observed between March and May 2013, with 25 actual “on assignment” hours logged with the four photojournalists. Another 20 hours of informal interviews or observations in between assignments were also recorded, making a total 45 hours of qualitative observation time over the course of three months. By May, it became more difficult for this researcher to get observational time of the specific assignments of interest (when the photojournalists were juggling both types of content) with the photojournalists because the observations required more work, organization, and stress on their part. Lindlof and Taylor (2002) acknowledge in their book Qualitative Communication Research Methods that often qualitative observations end before the researcher is completely ready because of the deadline factors of a project or job constraints (in this case, of the subjects).

Although this researcher would have liked to continue with observations and was restricted by time and access to the subjects of study, the main themes of interest had already been established and examined, and jottings during observations had begun to become repetitive. Lindlof and Taylor (2002) call this “theoretical saturation,” or the point in observations and interviews when the new data adds very little to what has already been recorded by the researcher. Therefore, it was concluded that the observations hours completed were sufficient to understanding, at least at an exploratory level, the subject of interest.

**Analysis of Observations**

During the hours of direct observations of the photojournalists, this researcher took notes on a broad spectrum of themes and subjects. According to Emerson, Fretz, and Shaw (2011) the ethnographer should take very loosely organized, quick “jottings,” attempting to not edit themselves. The participant observer must try to quickly note details that can become part of a rich narrative of a crucial moment, sometimes only recording this context with a few words that will be explicated later. Emerson et al. (2011) recommend to re-write
These initial jottings into longer, more detailed, complete narratives on the same day after the intense observations are over. This researcher kept one notebook for each photojournalist observed, and re-wrote the field notes on a laptop, keeping a separate document file for each photojournalist, but there was some cross-over files if there was an interaction in the newsroom or on assignment. As the observations proceed, themes of interest often become apparent to the researcher and can be more closely examined in follow up observations and interviews (Lindlof & Taylor, 2002).

After the observations are over, the ethnographer may not be able to clearly see all significant themes in their notebooks or computer files. In order to find the order in the chaos, Emerson et al. (2011) recommend printing out the completed field notes and cutting them up into simplified subjects. Once the researcher can see the pieces as separate items, they can search for re-occurring themes and create a set of categories. Then each piece of field note is coded by category and the pieces of the puzzle are put back together, based on the broader themes.

This researcher followed Emerson et al. (2011) advice and cut up the typed up field notes. The observations offered rich contextual details illustrating the efforts, frustrations, pressures, and struggles with video adoption in the community of newspaper still photojournalists. The observations were categorized into details about adoption and resistance of video, equipment, adaptation of video style, and the attributes of innovations: relative advantage, compatibility, complexity, observability, and trialability.

Once the pieces were coded, the details, quotes, moments, or observations were re-organized guided by the overarching themes elucidated. Using this method of analysis of qualitative data, the topics of interest are not imposed upon the study at the beginning, but are discovered organically in the course of the observations and analysis (Lindlof & Taylor, 2002).

**Survey**

These participant observation findings of four photojournalists, strong in reliability but weak in external validity, are not generalizable to the population of newspaper photography department staffers across the United States. The second phase of this study was to conduct an online nationwide survey of newspaper photography staff. A survey can
gather standardized information from a large population in a format that can easily be compared and analyzed (Babbie, 2010).

**Survey Construction**

In this study, the participation observation findings not only provided detailed, context-rich narratives of how and why photojournalists were incorporating video, but were also used to construct a relevant questionnaire specifically to quantify certain variables witnessed while studying photojournalists on assignment. The salient themes discovered during the observations and interviews directly influenced the construction of the survey in terms of the variables of interest, the operationalization of these variables and word choice.

**Operationalization of Variables**

When conducting surveys, the operationalization of variables is required. In this study, the independent variable was if the photojournalist recorded video on assignment or not (thus being an adopter or not). The dependent variables in this study were the perceived attributes of video in terms of relative advantage, compatibility, complexity, observability, and trialability. Relative advantage refers to the competitive edge the photojournalist believes they will gain by adopting the video technology, such as job security. Perceived compatibility is the degree photojournalists believe that the technology fits well with their work style. Photojournalists then rated video on complexity, or their perception of how difficult the technology would be to learn and use. Observability is the visibility of the technology in the work place, and trialability is the photojournalists' chance to try out the technology without making a full commitment to becoming an adopter.

**Adopter Groups**

In order to identify and operationalize adopter groups in this study, participants were divided into two groups based on the question of those who had recorded video and those who did not. In this study, the photojournalists who answered that they shoot video were categorized as adopters, while the individuals who answered that they do not shoot video, were categorized as non-adopters. Then, the adopter and non-adopter groups were given relevant questions to their area. (See Appendix for the full questionnaire.)
Attribute Measurements

To further our understanding of the diffusion of technologies in media communities, to predict adopter behavior, and to answer research question seven, the survey also asked questions of adoption of technology on a broader, theoretical level. Participants were asked to rate video on five attributes — advantage, compatibility, complexity, observability and trialability — which have been found to be strong indicators of whether the technology is adopted or fails to be adopted by a subject in a population, (Rogers, 2003).

 Adopters and non-adopters were asked (with slightly different wording) how they viewed the attributes of video in their work, utilizing statements that have been used to measure the attributes in past diffusion research (Moore & Benbasat, 1991; Rogers, 2003). These statements measured the five perceived attributes of video in terms of the relative advantage they believed they gained or would gain, the compatibility of video with their work, the complexity of video to learn and record, the observability of video technology in their normal work day, and the trialability, or the availability to try the technology before committing to be an adopter. The photojournalists were asked to rate their agreement to each statement on a Likert-type scale ranging from strongly disagree to strongly agree for each set of questions for all five attributes (see Appendix).

In order to extrapolate research question eight which asked if the average rating of the attributes of video by the adopter group was significantly different than that rating by the non-adopter group. For this analysis, the average rating for each attribute by both the adopter and non-adopter group was computed and the means were compared with the ANOVA procedure with the F-ratio measuring the significance. Finally, demographics of the sample such as gender, age, level of education, number of years of experience, size of media company and newspaper circulation of the sample were collected.

Reliability of Measures

The survey data was imported into the software program, SPSS Statistics, and the Cronbach's alpha was calculated for each set of questions to test reliability of the measurements. In the case of relative advantage, originally there were five questions, but two were dropped to improve the reliability for the measures of that attribute. As for the perceived attribute of complexity, only two of the measurements were used in the final
analysis, to improve reliability. In all cases, if a question was dropped from the one group, that same question had to be dropped from the other group.

The measurement of the attributes of relative advantage, compatibility, and trialability were all found to be reliable for both groups in the sample (see Table 1). The measurements of complexity were less reliable for both groups, and observability measurements were found to be reliable in the non-adopter group, but much less so in the adopter group.

Table 1. Reliability for Attributes of Innovation Measurements

<table>
<thead>
<tr>
<th>Innovation Attributes</th>
<th>Reliability (Cronbach's alpha)</th>
<th>Non-adopters</th>
<th>Adopters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative Advantage</td>
<td>0.79</td>
<td>0.84</td>
<td></td>
</tr>
<tr>
<td>Compatibility</td>
<td>0.77</td>
<td>0.83</td>
<td></td>
</tr>
<tr>
<td>Complexity</td>
<td>0.65</td>
<td>0.63</td>
<td></td>
</tr>
<tr>
<td>Observability</td>
<td>0.80</td>
<td>0.59</td>
<td></td>
</tr>
<tr>
<td>Trialability</td>
<td>0.75</td>
<td>0.76</td>
<td></td>
</tr>
</tbody>
</table>

The Sample

The researcher gathered a sample of photography staff for newspapers with a daily circulation over 30,000, drawn from the list of newspapers included in the last edition of the *Editor & Publisher International Year Book* (Maddux, 2009). Newspapers with a daily circulation under 30,000 were not included in the study, because the majority of newspaper circulation is represented by papers greater than 30,000 circulation (Santana & Russial, 2013), and smaller newspapers tend to overlap responsibilities between editors, reporters, and photojournalists (Weaver, 2007).

After obtaining a list of newspapers, photography staff contact information was found on the newspapers' websites. Often the staff lists under photography department included job titles as staff photojournalist, chief photographer, multimedia journalist, visual journalist, and videographer. All such staffers with these varied titles were included in the sample. For newspapers that did not include staff emails on their websites, emails were sent or phone calls were made to the photo editor. Some of these photo editors replied with a list of email addresses for their staff photojournalists in the interest of being included in the study.
In the end, a contact list of photography department staff members at 282 newspapers across the country were included in the study (57 newspapers with circulations greater than 30,000 did not provide contact information for the photography staff, and did not respond to emails or a phone call requesting their staffers email addresses). A link to the online survey was sent via email to the photojournalists. One concern with online surveys is that some members of the general population such as the elderly and poor would not be able to participate. This concern does not apply in this case, as the population of photojournalists is generally very technology savvy and has almost constant access to their email and the internet. The modern newspaper photojournalist would have no problem completing an online survey, therefore this online survey would give each person in this population an equal chance to participate.

**Response Rate**

The survey was sent to 1,439 staff photojournalists on Tuesday October 8, 2013 with an incentive for the chance to win one of four $50 gift certificates to B&H Photo Video online supply store if they completed the survey by Friday, October 11.\(^1\) Almost 200 photography staff participated in the survey on the first day. A deadline reminder was sent out on Thursday, October 10, and a final reminder sent out Friday, October 11. The survey was kept open during the weekend and several more participants responded on that Sunday, October 13. In an effort to get more respondents, the chance to win two more gift certificates was offered the following week to participants who filled out the survey before Friday, October 18. When the survey closed on Saturday, October 19, a total of 536 qualified respondents had completed the survey for a 41\% completion rate, a good completion for an online survey (Dillman, 2007).\(^2\)

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\(^1\) Of the total sample of email address, 96 of those messages bounced back.

\(^2\) There were 558 respondents. Of those participants, 22 were disqualified because they played a managerial role in the photography department and did not go out on assignment, leaving a total of 536 survey responses out of the 1,321 for a 41\% response rate.
Descriptives

Of those who responded to the survey, nearly all of them were newspaper photography department staffers; only two out of 531 were freelance photojournalists because the survey targeted photojournalists who had contact information on newspaper websites. The circulation of the respondents' newspapers ranged from 10,000 to over 500,000 daily (see Table 2) with more than half of the respondents representing newspapers represented with daily circulation between 40,000 – 200,000.

Table 2. Circulation of Newspapers Represented in Sample

<table>
<thead>
<tr>
<th>Circulation</th>
<th>Number in sample</th>
<th>Percentage of sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-40,000</td>
<td>85</td>
<td>17.10%</td>
</tr>
<tr>
<td>40,001-100,000</td>
<td>182</td>
<td>36.60%</td>
</tr>
<tr>
<td>100,001-200,000</td>
<td>104</td>
<td>20.90%</td>
</tr>
<tr>
<td>200,001-300,000</td>
<td>74</td>
<td>14.90%</td>
</tr>
<tr>
<td>300,001-400,000</td>
<td>19</td>
<td>3.80%</td>
</tr>
<tr>
<td>400,000-500,000</td>
<td>11</td>
<td>2.20%</td>
</tr>
<tr>
<td>over 500,000</td>
<td>22</td>
<td>4.40%</td>
</tr>
<tr>
<td>N</td>
<td>497</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

The ages of the respondents ranged in age from 18 to 61 years old. The average age in this sample was 46, and the gender makeup of the sample was 20.5% female and 79.5 male. Both the average age and gender breakdown of the sample are similar to a recent survey of photojournalists (Yaschur, 2012) and Weaver's (2007) exhaustive study of characteristics of all journalists' done in 2002.³

With regard to education level, a small percentage had a masters degree or higher (8.2%) with a strong majority of the sample having received a bachelors degree (76%) as their highest educational level. Photojournalists who only finished high school, (6.2%) or a technical degree (9.6%) was a small percentage of the total sample. These percentages are

³ Yaschur's (2012) 226 respondents of a survey of photojournalists and photo editors were 78% male and 22% female, with the average respondent in his or her forties. In Weaver's (2007) survey of the basic characteristics of U.S. journalists, the average age was 41, and 33% of daily newspaper journalists were women. The Weaver survey includes all journalists in the newsroom.
closely comparable to the levels of education of journalists found in a survey in 2002 (Weaver, 2007). In conclusion, this sample of photojournalists closely resembles the general population of photojournalists in the United States.

Data Analysis

To analyze the data in this study, statistical analysis was done using the statistical software application, SPSS Statistics. Descriptive data about the use of equipment and time working on each type of content was analyzed using a simple frequency procedure. A search for possible correlations between being an adopter or non-adopter and demographic characteristics was examined using cross tabulation. The mean answer for each attribute by each group was calculated and then the difference in the means of the attribute scores between the two groups was analyzed using the ANOVA procedure, while the F-ratio is the inferential statistic indicating whether the differences in the means between the two groups was scientifically significant and generalizable to the population of all newspaper photography staff with a circulation over 30,000 in the United States.

Subject Confidentiality

In the reporting of the qualitative results, the photojournalists' names have been changed in the interest of confidentiality. The photojournalists followed on assignment are identified in this study by the aliases Jim Gibs, Neil Cruz, Pattie Peters, and Shawn Higgins. Additional people interviewed were Dan Barton, Hal Lamkin, Jeff Grim, and a director of photography and they are referred to in the results by these aliases or their job title. Participants in the national survey remain confidential, but they were given the option to input their emails to be placed in the drawing for one of the six incentive gift certificates.

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4 Weaver (2007) found that 1.8% of journalists only graduated from high school; 8.9% had some college; 68% graduated from college; and 16.6 received a graduate degree.
CHAPTER 4

RESULTS

The results for each research question and hypotheses includes the findings from the participant observation and survey phases of this study. In most cases, the nationwide survey supported the qualitative findings of the smaller sample. The results from the observations are given first for each research question and hypotheses, followed by the quantitative findings.

RQ1: To what extent were photojournalists recording video and audio in addition to their traditional task of capturing still images on assignment?

RESISTANCE VERSUS ADOPTION OF VIDEO

Some photographers embraced video technology while others adopted it with varying degrees of enthusiasm. According to Jim Gibs, there was a small group of photojournalists at his newspaper who were resistant, while other staffers saw the change as inevitable, adopting video reluctantly, and a few who embraced it and made it their specialty. In one heated newsroom discussion photojournalist Hal Lamkin expressed fear that all photojournalists devoted to shooting still images would be replaced by TV videographers. “It’s really a fight for our lives,” (J. Gibs, personal communication, May 29, 2013). Lamkin, nostalgic for the days when his job was only taking still images, touted the qualities of the still image over video: “The still image is more powerful, those are the images that freeze in people’s memory. They are going to be remembered, not video. But I’m biased,” (H. Lamkin, personal communication, June 11, 2013).

Jim Gibs, a veteran photojournalist who had worked at the mid-sized newspaper for more than 35 years, described the constant development of new media technologies by saying “change is the norm these days,” (J. Gibs, personal communication, March 5, 2013). Gibs by nature does not resist change he explained, but tries to adapt to it as best he can. Years ago when he began working as a photojournalist he was “a chemical guy,” but had switched to digital early. Another long-term staffer at the paper, Neil Cruz said he was an
early adopter as well. He covered the national Republican Convention in 1996 with a digital camera, very early on in the diffusion of innovations curve for digital technology. “The writing has been on the wall for a long time. Now you're a 'visual journalist,’” Cruz said, (N. Cruz, personal communication, May 29, 2013). Cruz foresaw the move to video, and believed that all still imagers now must be fluent in video and audio technology.

Gibs and Cruz both saw opportunities in the technology, giving them new ways to tell a story. Separately Dan Barton, a Pulitzer prize-winning photojournalist at another newspaper, believed online audio slideshows opened up new possibilities for photojournalists. He found the end result more satisfying because audio allowed the subjects to tell their story in their own words. On another occasion Peters said she enjoyed doing audio slideshows and always tried to listen for audio that would help her tell the story while shooting photographs. Neil Cruz remarked there was some impressive video work being done by newspaper photojournalists, and soon all newspaper photographers would be doing it just as well. Cruz believed that in the near future they would not be divided into still photographers versus videographers, but one class of visual journalists. Among these photojournalists, it was apparent that they are continuing to work within their traditional newsroom tasks but also having to take on the task of learning new innovations such as adopting video technology.

**National Findings: Type of Content Shot and Recorded on Assignment**

The national survey supported these findings. According to survey results of 531 respondents, the type of content that photojournalists were shooting and recording on assignment varied but a strong majority had adopted video, with a few only shooting video and not stills. About 79.7% photojournalists produce still images, audio and video; 0.5% video and audio only; 0.7% still images and audio only (no video); and 15% still images only (no video or audio) (see Figure 1).

In reference to Figure 1, by condensing these types of content into groupings by video or non-video offerings, we can identify two groups – the video adopters and non-adopters. Based on this regrouping, 84% of the respondents are adopters of video, while only 16% have not added video to their work (see Figure 2).
Figure 1. The type of content photojournalists are recording on assignment.

Figure 2. Adopters and non-adopters of video.
Therefore, results show that video technology is far along in the adoption curve among newspaper photographic departments with a strong majority of photojournalists incorporating video into their work. Yet, this does not fully describe the extent to which photojournalists have adopted video because it does not tell us how often they are utilizing video, therefore research question two must be answered to fully understand the extent of adoption of video by newspaper photojournalists.

*RQ2: How much of the adopters' time was being spent on video versus still images?*

**Reverting to Stills or Video**

The reality of the situation was clear to most photojournalists observed: They had to shoot video. But photojournalists were being asked to do more on each assignment. It was observed that the amount of time dedicated to stills and video changed depending on the assignment. If the photojournalist was asked to shoot video and stills, often they would focus on one depending what was best for that subject. Some situations were more conducive to video and others to still images, and the photojournalist would spend more time on the content that fit the situation. For example, Pattie Peters decided to shoot mostly stills for an assignment at the local swimming pool when she arrived because the event was not well attended. She could do close-up still frames of a woman and her baby swimming, instead of recording video of a mostly empty swimming pool. On another occasion, Shawn Higgins decided to record mostly video at an event that involved a musical group. The light was difficult, but the audio was so rich that a video worked better than still images in that case.

When it was just not practical to shoot both video and stills, the photojournalists often decided to shoot stills as those could be easily modified for web and broadcast media. The newspaper's television station did not mind broadcasting the still images, using the “Ken Burns effect” (zooming in and out of the stills) with a voice-over by the anchor or reporter to make it more dynamic. When on deadline, the use of the still image with audio or voice-over was the easiest for photographers and television editors alike. The photojournalist did not have to transmit heavy video files back to the newsroom and no one in the newsroom had to edit minutes of B-roll video to find those few seconds to broadcast. The photojournalists argued that this was higher quality, easier, and faster than broadcasting video, or grabbing a still frame from a video.
Based on the researcher’s observations, each photojournalist had 3-4 assignments daily, and was responsible to shoot or record a mix of stills, video, and audio. Just how often they were shooting this mix varied, depending on the assignment and the photojournalist. Peters said she shot video about 3 times a week, on top of her other responsibilities (stills, online galleries, blog entries, etc.). Barton said he did not shoot daily video assignments, but reserved the added video tasks for big projects that would have a huge online presence. Cruz was recording both video and still content at least once a day on assignment. Gibs was concerned that juggling so much would affect the quality of their work. There was more set up involved and less time to get the stills he wanted, he explained while heading to his second assignment of the day before 9:30 a.m.

“The trick is how do you do both and do them well?” (N. Cruz, personal communication, June 11, 2013). Neil admitted that “the work suffers,” with the adding responsibilities (N. Cruz, personal communication, June 11, 2013). Neil was recording video and shooting stills at a sunrise event, and he had to be at his next assignment by 9 a.m. to set up for a video interview. He admitted that sometimes he just didn't have the time to shoot both video and stills. “We would like to do both, but it’s not always practical,” (N. Cruz, personal communication, May 25, 2013). Regarding the video he had just shot that morning he said: “I just know I'm going to cut this video on my day off,” because video creates a huge work flow issue for many photographers (N. Cruz, personal communication, May 25, 2013).

Therefore, according to observations and interviews, the amount of assignments when the photojournalists were juggling content varied, but photojournalists in this small sample had to record video at least a few times a week. This additional responsibility did cut into their time shooting stills.

**NATIONAL FINDINGS: FREQUENCY OF SHOOTING MULTIMEDIA CONTENT**

The survey findings reflected a similar trend nationwide. The video adopter group was asked how often they shot both video and stills on assignment. According to the survey findings, 51% of adopters said they shoot video and stills on assignment often or always and 44.7% do this often. Another 45% of adopters said they were asked to shoot both video and stills sometimes and only 4% saying almost never or never (see Figure 3).
Figure 3. Frequency of capturing still images and video while on assignment.

**NATIONAL FINDINGS: TIME SPENT ON STILLS AND VIDEO CONTENT**

With just over half saying they always or often have to juggle video and stills, it is clear that video recording is not limited to the occasional assignment for most photojournalists, but has evolved into one of their expected, routine tasks. Photojournalists were asked to record video on many of their assignments, but in order to further understand how much time this additional task takes in the course of an assignment, the adopters were asked which content – stills or video – took up most of their time when they had to shoot both. Observations of photojournalists showed that they often reverted to one or the other depending on the situation, and if both were required, the photojournalist felt the quality of the still images suffered. The survey shows that indeed, a large majority of photojournalists said they spend more time on the video content when shooting both stills and video. Only 12% of the adopters said they took more time with stills on these assignments, 16% said stills and video took up equal amounts of their time, and a full 72% said that video took more of their time while on assignment where they had to shoot both stills and video (see Figure 4).
Video was not recorded on all assignments, just over half of photojournalists said they were juggling these different types of content often or always, but when they are recording both stills and video, nearly three-fourths of the photojournalists say that video is taking up more of their time. Therefore, the time spent recording video is surpassing the time spent on shooting still images for most photojournalists on many of their assignments.

**RQ3: What equipment did photographers carry while on assignment to help them manage these additional work responsibilities?**

**EQUIPMENT: QUALITATIVE AND NATIONAL FINDINGS**

Based on observations of the photojournalists in this research, it was found that they were carrying more gear with them on assignment. The multimedia newspaper photographer had two to three cameras hanging from their shoulders, a large magnifying loupe hanging from their neck, a mobile phone in their back pocket loaded with apps, a mobile wireless router in their bag for quick transmission of images, a tripod left in the trunk of the car for video if needed, and sometimes even a dedicated video camera with an even heavier tripod. “I shot something last week and had three cameras on my body, I looked like Canon Squarepants,” joked Pattie (P. Peters, personal communication, July 11, 2013). She had one camera for video, two others set up for stills, and multiple lenses that worked on all three cameras.
Gibs epitomized the image of the self-sufficient mobile photographer as he drove around a southern California city listening for breaking news on the police scanner: “I try to stay out of the office. You can't take a good picture in the office.” (J. Gibs, personal communication, March 12, 2013) and put it succinctly on another assignment, “Your car is your base,” (J. Gibs, personal communication, May 29, 2013). Gibs had built into the passenger side of his car a small moveable desk for his laptop. In his trunk, he had a customized steel safe for his equipment, lighting gear, and reflectors – all in a small Honda.

**The dSLR Versus the Dedicated Video Camera**

Among the newspaper photographers observed, the dSLRs with video capability was preferred over the larger, heavier and more complex dedicated video cameras. Occasionally Cruz or Gibs had to use the video cameras, and they clearly did not feel as comfortable with the equipment. The TV style dedicated video cameras were viewed as being more complicated, heavier, producing a lower quality of image, and having low compatibility with their work style because they required more set up time.

According to Cruz and Gibs, the benefits to the dedicated video camera were the automatic focusing ability and the built-in audio. Both Nikon and Canon now manufacture dSLR cameras that shoot high quality video (Campbell, 2013; Yaschur, 2011), but the photographer has to manually focus using the back screen when the camera is in video mode. To fix this, the photographers observed used a large loupe that they attached to the back screen, enabling them to focus more easily, essentially making their dSLR cameras into video cameras with add ons. Cruz explained that his video camera was piecemeal, a dSLR with an added loupe and audio recorder. Barton confirmed that at his paper the staff photojournalists were migrating away from the dedicated video cameras as well, especially as the video from the dSLRs improved and more add-ons became available to make these still cameras more video compatible. To solve the low audio recording quality, some photographers were either adding an external audio recorder to their dSLR, or relied on the low quality in-camera audio. In either case, recording audio remained one of the stumbling blocks for dSLR video.

The national survey of photojournalists confirmed this preference for the dSLR among the larger sample. Of the video adopters, 74% said they use a dSLR more often, 20%
said they usually used a dedicated video camera, and another 6% said they use them equally. About 44% said that they never take a dedicated video camera with them on assignment.

**iPads and Mobile Apps**

One piece of new technology equipment which appeared often in the photojournalists’ work during the observations was the iPad. Jim Gibs kept an iPad with the mapping app Google Earth in his car. This helped him find locations announced over the police scanner. In one instance, he was typing the address into his iPad while merging into traffic on the highway: “When something like this happens, to say it is multitasking is an understatement,” he acknowledged as he headed north towards the site of a factory roof collapse and a call for ambulances. (J. Gibs, personal communication, March 12, 2013).

Gibs explained that he used the iPad instead of his phone because it was bigger and easier for mapping the city. While covering a brush fire season a couple years ago, Gibs used an iPad and a mapping application to find his way into a neighborhood that had been blocked off by police. Also, Gibs would also use the iPad during the course of the day to check hyper-local websites for updates on issues and events he was covering, and check his newspaper's archives to see what they had published on specific issues, making sure that his media company was staying ahead of the competition.

Mobile applications use was not limited to mapping locations. Two photojournalists were using an application called “Live U” to stream live video back to their television department using their iPhones, without the need for a satellite truck. The photo department director said all photojournalists had an application on their iPhone in case they had to report live from a breaking news event. This phone app connected the journalist with a live shot by picking up cell phone coverage from different companies, sending out the images in packets, and recompiling them back in the office for broadcast. The photography department of the mid-sized newspaper with the new television station was currently training to use the app, and all the training observed occurred on the job, while covering a story. This live coverage depended on cell phone coverage, but was a light and simple way to do live reporting within the city limits. The company who created the mobile application for the iPhone also sold a 30-pound backpack version that worked with dedicated video cameras intended for full TV competition according to Gibs and the director of photography. Because the newspaper had
just started a web-based and cable television station, it was important to them that all their photojournalists have the capability to report live while on assignment and they were making the transition to this light-weight, live streaming technology. The newspaper was investing heavily in its new television station, and the Live U equipment backpacks were part of that investment (J. Gibs, personal communication, March 12, 2013).

**iPhones**

Along with apps and the iPad, iPhones were ubiquitous. Jim said all staffers in the photography department had the latest version. Indeed, all journalists had found many uses for their iPhone other than calling their editors, such as recording interviews, shooting still images, recording video and streaming live video straight from their iPhone. This accessory had many built in uses beyond talking on the phone, which led to some problems with communications between journalists on assignment and their editors back at the office. For example, while a reporter was recording an interview his editor called him, thus interrupting the great quote he was getting at the time. On the same story, Neil went live using his iPhone, but was unable to call or text his editor back in the newsroom because his iPhone was feeding the live video. As the iPhone became more useful in journalistic work and photojournalists observed constantly utilizing their mobile phone for purposes other than phone calls, they quickly realized that they needed another way to communicate with their bosses.

And the usefulness of the contemporary mobile smart phone was supported by the national survey as well with 92% of the photojournalists saying they used their cell phone for more than calling the office. Seventy-eight percent said they used it to text co-workers. But the usefulness of cell phones has expanded past communication purposes and into the realm of collecting publishable content with 65% saying they shoot stills, 60% responding they shoot video, and 24% who have streamed live video using their mobile device. Clearly, the smartphone has become a necessity for any professional photojournalist in today's converged media landscape, and luckily for them it is lightweight, as opposed to other equipment such as the tripod.
The Tripod

The tripod has become more useful to the newspaper photojournalist on some assignments with the advent of recording video. According to the national survey, 85% of photojournalists who record video said they never or almost never use a tripod when shooting still images, yet 47% say they always or often bring a tripod with them on assignment for recording video. Their use of a tripod is situational, with 72% saying they use a tripod when recording video during an interview, and 68% using a tripod when recording video during a press conference. But only 17% said they use a tripod when recording video of natural life activity. Therefore, the tripod is equipment that has been added to aid with recording video but is only used in certain, more static circumstances.

Overall, it was clear in both the observations and the survey that video has made additional equipment necessary on assignment. In some cases, this equipment is heavy and awkward for the photojournalist such as dedicated video cameras and tripods. In other cases, the equipment is a light-weight innovation such as the iPhone, iPad and mobile apps which have been found to be essential to today's photojournalist and may help make their job of recording and transmitting visual content, including video, easier.

RQ4: How did they juggle these new tasks with their traditional tasks and incorporate them into their work style while on assignment?

Equipment That Helps Photojournalists Juggle Content

As mentioned above, some of the additional equipment that the observed photojournalists have to carry, or at least have in the trunk of their car nearby, is manufactured for the purpose of helping the photojournalists record video in a way that fits with their work style. The Zakuto loupe works specifically to help still photographers focus the image using the camera's back screen when they are recording video with a dSLR, and the “Live U” backpack was created to provide a light-weight alternative to the TV station satellite truck. Some solutions were tailor-made by the photojournalists. “We are always fabricating something,” explains Cruz (N. Cruz, personal communication, June 11, 2013). He recalled the days of the old Leaf Desk for transmitting images over phone lines, “You were like (James) Bond, taking hotel phones apart to send photos back to the newsroom,” (N. Cruz, personal communication, June 11, 2013).
For Gibs and Cruz, the problem now was how to mount their iPhones to the top of their dSLRs in order to record or live stream video at the same time as shooting still images. There is a manufactured mount available, but the iPhone must be removed from its protective carrying case. The solution was homemade. Gibs welded custom iPhone mounts for all the photojournalists on the staff, and Cruz painted them to blend in with their other equipment. Now the staff could mount their cell phone to a tripod or the hot shoe of their still camera and record video while shooting stills. They explained that they have always had to build their own fixes to these problems:

We do stuff like this all the time. We used to have a guy in the printing press/machine shop make us mounts for things. He was also a photography nut, so we would slip him some film for his work.” (N. Cruz, personal communication, June 11, 2013).

A few of the photojournalists observed seemed to enjoy the challenge of finding or creating gadgets that helped them incorporate video while preserving their work routines and styles.

**SHOOTING VIDEO AND STILLS CONCURRENTLY**

Based on observations and interviews, sometimes photojournalists find themselves in the position where they have to shoot both video and still images concurrently. This was done using one of three methods: shooting with two different cameras recording at the same time, shooting video and interrupting the video to shoot stills, or spending more time on each assignment.

**Video On the Tripod**

In certain situations, photojournalists can shoot both video and still images at the same time with two different cameras. This is most often done during press conferences, events on a stage, or interviews, when the video camera could be placed in one spot and record, while the photographer would move and shoot stills with the other camera. On one assignment, Shawn Higgins set up one of his dSLRs to record video on a tripod pointed at a stage, and he crawled around in front of the stage during the performance, shooting stills. Occasionally he would return to the camera shooting video to make sure it was pointed in the right direction. In these situations, the photojournalists set up a camera to shoot video, stepped away from that camera while it recorded, and concentrated on shooting still images at the same time with another camera.
This method could be used in some natural settings as well, as when Higgins was shooting in a dairy farm in the milking room. He placed a video camera in one spot to record the milking machine milk a line of cows while he took selective still images of the scene at the same time because he knew where the cows were going to walk through the frame and where they were going to be milked.

But these were situations where the journalists could count on the action occurring in a specified area and the action can easily be anticipated. In these situations, Higgins had the luxury of being able to move around to get more interesting angles with his still camera while video was rolling. This workflow made video more compatible with their work style while on assignment, but could not be used in every circumstance.

**Switching on Same Camera**

Peters preferred shooting video and stills with the same cameras but switching back and forth. During her assignment at the swimming pool, she was often switching back and forth between recording content. But, she explained, she still was only able to get the decisive moment with either stills or video, not both. It was observed that Cruz often switched quickly on the same camera to shoot stills and video, an advantage when trying to capture visual content quickly and discreetly.

**Frame Grabs**

Thus, photojournalists had found ways to collect both still images and video content at the same time: shoot both stills and video at the same time with the camera shooting video pointed at the subject while perched on a tripod and recording, go back and forth with one camera with the quick flip of a switch, spend more time per assignment (but they often did not have this luxury), or send two photojournalists on the assignment. Another option had been used by several of the photojournalists observed, but was the least popular: the frame grab, or essentially, using one frame of video to stand in for a still image.

Opinions on frame grabs different greatly between photojournalists interviewed and followed on assignment. Most did not want to use frame grabs, citing the lower quality of the image and the difference in the act of taking it. They asserted that one shoots video differently than still images, and therefore the frame grab is not the optimal still image of the scene. Neil Cruz debated this in the newsroom with his co-workers. He asked what the
difference was between a frame grab and still images from a dSLR that shoots 30 frames per second. The issue of frame grabs made many of the photographers uneasy. They worried the practice could replace the painstaking craft of traditional news photography.

Respondents to the national survey confirm that there are several methods used in the industry to shoot both stills and video of the same moment, and that frame grabs are the least preferred option. Respondents were asked to rate how often they used each of these three methods on a scale of never, almost never, sometimes, often, or always. Most photojournalists in the sample preferred switching back and forth between stills and video with the same camera or cameras, referred to as the “switching back and forth” method in Table 3. Also popular was the use of two cameras, one recording video on a tripod, while shooting stills with another camera, referred to as the “video on tripod” method in Table 3. As in the observations and interviews, the frame grab was not popular with photojournalists (see Table 3).

Table 3. Methods for Shooting Video and Still Images Concurrently

<table>
<thead>
<tr>
<th></th>
<th>Switching %</th>
<th>Video on Tripod %</th>
<th>Frame grab %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>8</td>
<td>4.8</td>
<td>1.7</td>
</tr>
<tr>
<td>Often</td>
<td>29.6</td>
<td>22.5</td>
<td>9.6</td>
</tr>
<tr>
<td>Sometimes</td>
<td>29.9</td>
<td>31</td>
<td>23.8</td>
</tr>
<tr>
<td>Almost never</td>
<td>15.3</td>
<td>20.3</td>
<td>29.8</td>
</tr>
<tr>
<td>Never</td>
<td>17.2</td>
<td>21.3</td>
<td>35</td>
</tr>
<tr>
<td>N</td>
<td>412</td>
<td>413</td>
<td>408</td>
</tr>
</tbody>
</table>

The option for getting video and stills for the same moment ranked the lowest among photojournalists was getting a frame grab, which was used by 35% of the photojournalists sometimes, often or always. In other words, using a frame grab of video in lieu of a still image had been used by only one third of the photojournalists when faced with this dilemma. Photojournalists feel that this method places still images squarely behind video in terms of importance and results in a lower quality still image.
Sending Two Photojournalists

When the director of photography of the mid-sized newspaper wanted both video and
stills from an important event, the optimal solution in the opinion of the photojournalists was
to send two people, one to shoot stills and one to record video. The photographers
interviewed felt that this solution improved the quality of both types of content. At one press
conference Gibs was shooting video with a dedicated video camera because they were going
to stream live. The newspaper also sent Cruz to shoot stills so that Gibs could concentrate on
the live video. Gibs explained that their TV station could break to his video at any time, so
he had to be constantly monitoring the screen. Also, because he was not shooting stills, he
could record more interesting video by panning the conference and zooming in and out.

In a similar situation, Gibs recalled covering a breaking national story, and the
newspaper sent two photojournalists from his paper to cover it. They divided the work by
content, and Cruz said that he could not have juggled that type of intense dual coverage by
himself. While he was shooting images of cows, Higgins believed one photojournalist could
do both well if given the time and if there wasn't a quick deadline. The dairy farm
assignment was not a daily deadline, so he knew he had the extra time to record high quality
video and stills.

\[H1: \text{Adopters will perceive greater relative advantage of video, when compared to non-adopters.}\]

**JOB SECURITY**

The survey findings also support H1. The attribute of relative advantage is the
perception by individuals in the community of study regarding what advantages they gain
from adopting the innovation. The more a person feels they can gain an advantage with a
technology over the competition, the more likely to adopt the innovation. Adopters of video
observed in this study instinctually understood some of the relative advantages they gained
with the extra skill set. Gibs inadvertently expressed one relative advantage of shooting
video when he looked around at the newsroom, nearly empty after a series of layoffs: “You
have to adapt to the changes, the people who don't want to or can’t are not here anymore,” (J.
Gibs, personal communication, June 11, 2013). Gibs believed that by learning and recording
video he had gained more job security.
And some of the photographers saw other advantages to recording video, namely giving them more tools in their journalistic toolbox: “I'm going to use any technology that will help me tell a story visually,” (N. Cruz, personal communication, June 11, 2013). And for some purposes, video works better than they admitted. Cruz shot a rocket launch with video because the rockets were shot so fast and he wasn't sure about being able to even get still frames off in time. He then sent his newspaper a frame grab from the video and the “photo” ran on the front page. He used video for its ability to capture the entire sequence of events and choosing one specific moment later. Although many photojournalists do not like the frame grab technique as mentioned earlier, in this circumstance recording video made more sense because of the speed of the action.

The survey results support these qualitative findings as well. Each respondent of the national survey rated video on five attributes by answering several questions that reflected that attribute on the scale from strongly disagree to strongly agree, and this scale was given the numbers 1 through 5 in SPSS in order to calculate the average rating for each attribute for each group. Rogers (2003) argued that the first two attributes — relative advantage and compatibility — have been found to be the strongest indicators of who becomes an adopter or not. The survey measurements for both of these attributes were found to be reliable (see Table 1). Photographers who shot video on average agreed that video gave them a relative advantage, while non-adopters average rating of video on relative advantage was neutral (see Table 4). For relative advantage not only were the measures reliable for both the adopter and non-adopter group but the difference of the means between the adopter and non-adopter groups was found to be statistically significant and generalizable to the population F(1, 501) = 14.95, p < .001 (see Table 4). The adopter group rated video higher for giving the photojournalist a relative advantage if adopted.

\[ H2: \text{Adopters will perceive greater compatibility of video, when compared to non-adopters.} \]

H2 was also confirmed by the results from the national survey. During the observations, there was little question as to the relative advantage a photographer gained by adopting video into their work, but the issue of compatibility was not so clear. Even early adopters of video admitted that the technology was not very compatible with their work style.
Table 4. Perceived Attributes of Video as Innovation as a Function of Adoption Status

<table>
<thead>
<tr>
<th>Perceived Attributes</th>
<th>Non-adopters</th>
<th>Adopters</th>
<th>F-ratio</th>
<th>d.f.</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Standard Deviation</td>
<td>Mean</td>
<td>Standard Deviation</td>
<td></td>
</tr>
<tr>
<td>Relative Advantage</td>
<td>3.23</td>
<td>0.9</td>
<td>3.66</td>
<td>0.94</td>
<td>14.95</td>
</tr>
<tr>
<td>Compatibility</td>
<td>2.02</td>
<td>0.82</td>
<td>2.73</td>
<td>0.95</td>
<td>39.83</td>
</tr>
<tr>
<td>Complexity</td>
<td>2.39</td>
<td>0.87</td>
<td>2.5</td>
<td>0.94</td>
<td>1.01</td>
</tr>
<tr>
<td>Observability</td>
<td>2.73</td>
<td>0.85</td>
<td>3.64</td>
<td>0.71</td>
<td>104.14</td>
</tr>
<tr>
<td>Trialability</td>
<td>2.58</td>
<td>0.84</td>
<td>2.68</td>
<td>0.93</td>
<td>0.83</td>
</tr>
</tbody>
</table>

Note. The Likert-type scale ranged from strongly disagree to strongly agree (1-5). Mean values were calculated for each attribute within its adopter or non-adopter group.

“Video and still photography are two different skill sets,” said Cruz (N. Cruz, personal communication, June 11, 2013). “Your brain is working in two different ways,” explained Gibs on a different occasion (J. Gibs, personal communication, May 29, 2013).

The attribute of compatibility reflects whether community members think a technology would fit well into their natural work style. If an innovation scores high on compatibility, it is much more likely that it will be adopted. It has been shown that adopters and non-adopters usually view compatibility of a technology very differently. Video by nature is a lot more imposing, it takes more time to set up and often requires that events be staged to some degree before the camera, according to Gibs, Cruz, Peters and the director of photography at the newspaper where they all work. This contrasts strongly with how still photographers like to work: capturing the natural moment, being a fly on the wall. But when asked about this dichotomy, Gibs believed that it didn't affect his still images that much. “It depends on your subject, but still photographers always try to find ways to be discrete,” said Gibs. “I am a still photographer first and do video second,” (J. Gibs, personal communication, May 29, 2013 & March 12, 2013). In other words, when time, work style or complexity of an assignment is an issue, Gibs falls back on what he does best, still images.

**ADAPTING VIDEO**

Other photographers have approached the compatibility issue a bit differently, by re-evaluating that traditional style of how video is recorded. While observing Peters, it became
clear that she refused to change her style to accommodate for video. She shot video in the
same way that she shot still images in order to make it more compatible with her work style.
She never used a tripod, the video was all-handheld, and she hid the camera shake by slowly
but constantly moving the camera across the scene. When asked about a tripod, she
wondered aloud, “But then where would I put it? And then I would spend forever adjusting
it,” (P. Peters, personal communication, June 18, 2013). Her body movements were similar
when she was shooting video and still, and since she would switch back and forth between
the two using the same camera, sometimes it wasn't clear from observing which type of
content she was recording. She was shooting the video in a more documentary fashion, not
standing it up in one place and staging it. Peters’s method was very different from the TV
cameraman style, which is as Cruz describes it, “5 feet up and on sticks (tripod legs)” (N.
Cruz, personal communication, May 25, 2013). When asked about her seamless style
between video and stills, Peters answered, “I wouldn't know how else to shoot it (video),” (P.
Peters, personal communication, June 18, 2013).

Other newspaper photojournalists tried to work in this more documentary style of
video as well. On an early morning assignment in a cemetery on Memorial Day, Cruz slowly
panned the small American flags planted at every grave site, without a tripod. He explained
if you just kept the camera moving slowly, then you didn't get the jerky camera shakes in
their video. And the photo director at the mid-sized newspaper concurred. He believed that
as long as you gave people clean sound and an interesting subject, people would watch video
that was hand-held and not the traditional style. These photojournalists were adopting video
technology into their work, but adapting it to fit into their work styles.

These findings were supported by the results from the national survey as well. As for
compatibility, adopters rated video a neutral rating on this attribute, while non-adopters
disagreed that video was compatible with their work (see Table 4). The measures for
compatibility were found to be reliable, and the difference between the means for the
attribute of compatibility between groups was found to be statistically significant and
generalizable to the population $F(1, 498) = 39.84, p < .001$.

$H3$: Adopters will perceive video as less complex, when compared to non-adopters.

Based on the results from the nationwide survey, H3 was also supported. The
attribute of complexity is a measurement of the perception that a technology is too complex
to learn and incorporate into a person's personal life or work. Past diffusion studies (Rogers, 2003) have shown that if people perceive an innovation as being too complex, there is less of a chance they will become adopters. In this study, the issue of complexity was a deterrent to recording video in some cases. For Jim, although he is considered an adopter, the assignment had to be a big story to put in the extra effort and time to shoot video as well as still images. Instead he often send in stills and the website would do a still image gallery and, as mentioned before, the television station would use the stills with a voice-over. This was often much easier not only for him, but also for the broadcast journalists, otherwise, the video had to be transmitted and then edited for those few seconds that were the best a time consuming process.

Similarly, Higgins was often held back by the amount of time it took to transmit his video back to his employer, and he would have to budget that time into the entire process. He would usually send 10-15 clips of B-roll video, 8-30 seconds each via FTP, and it would take about three to four hours. The weight of video files and the time to transmit them was a huge deterrent. As Gibs pointed out optimistically, “For speed and ease of transmission, the still photo is king,” (J. Gibs, personal communication, March 12, 2013). Therefore, producing video was definitely more complex than shooting still images, and this deterred some from recording video on some assignments in the small sample of photojournalists observed.

Based on the results from the nationwide survey, non-adopters viewed video as more complex than adopters. On the attribute of complexity, non-adopters disagreed that video was simple to learn and to incorporate into the work, and the adopters' average rating was neutral, although those average numbers were very close (see Table 4). The complexity measurements used in the survey were found not to be very reliable. The ANOVA procedure found that the difference between the two groups was found to not be statistically significant and not generalizable F(1, 500) = 1.01, p = .315, which could be a problem with the questions used to measure this perceived attribute.

H4: Adopters will perceive greater observability of video, when compared to non-adopters and,

H5: Adopters will perceive greater trialability of video, when compared to non-adopters.
ON-THE-JOB TRAINING

Based on the findings, both H4 and H5 were supported. The final two attributes that can be a factor in an innovation's proliferation among a community is observability and trialability. Observability and trialability are measures of the degree that the technology is visible and readily available to try out without making a full commitment to adoption. During observations, most photographers had many opportunities during their day to see video or try out the equipment in the newsroom or on assignment. When Gibs had to go pick up a dedicated video camera, there was staff there to explain how to use it. He had many questions for the newspaper's television staff before heading out to stream live video using the TV camera and the Live U backpack. “It is these situations that increase your stress level,” he said (J. Gibs, personal communication, May 29, 2013). Once he arrived at the assignment, there were other videographers working for competing news organizations willing to help him set up the video camera and test the live feed.

Oftentimes newspaper photographers and TV cameramen cover the same events and there is a videographer nearby, more than happy to help out a photojournalist trying to figure out their new video equipment. Cross-cultural exposure and assistance between these two photojournalists and television crews was relatively high in the observations. Although the media organizations see themselves as competitors, the photojournalists on the ground rarely treat each other as such. This informal training proved invaluable for Gibs when he had to use a dedicated video camera to stream live from a press conference.

Although many of the still photographers in this research were receiving informal on-the-job training in video technology, the director of the department felt that several of his staff members needed more formal training. Using money saved from not covering several athletic events, the department sent two of their photojournalists to a National Press Photographers Association immersion workshop on multimedia. Many of the staff photographers had attended one of these workshops at some point.

As mentioned, three of the photojournalists observed worked for a newspaper which had recently invested in building a TV station in their newsroom, thus raising video technology's trialability and observability in the newspaper photojournalists' daily routine. All the equipment and informal training were readily available with TV cameramen now on
staff in the same newsroom. Yet, the newspaper photojournalists felt that they had to make video their own, and not merely adopt the style of video done by TV cameramen.

The photojournalists were creating their own genre of news video, one that was more documentary style and less formal. Video was highly visible and available to try at their work place because of the proximity of the television station, and it was observed that the TV cameramen were happy to help train the photojournalists on the equipment. Significantly, the still photographers helped each other find ways combine video with stills in a more seamless way. In other words, the still photographers were training each other on how to resolve compatibility issues between recording video and their traditional work style shooting only still images.

Based on the survey findings, both H4 and H5 were confirmed. Adopters agreed that video was observable in their workplace while and were neutral about video's trialability. In contrast non-adopters were neutral on video's observability and trialability, but with a slightly lower average on trialability than adopters (see Table 4). Adopters of video technology did rate the observability of video in their work higher than non-adopters. The measurement of observability of video was found to be reliable for non-adopters, but not as strong for the adopter group. The ANOVA procedure found that the difference between the means for this attribute between the two groups was found to be statistically significant and generalizable F(1,495) = 104.14, p < .001 (see Table 4). Trialability measurements for both groups were found to be reliable. The difference between the two groups was also found not to be statistically significant and not generalizable to the population F(1,498) = 0.834, p = .362 (see Table 4).

Therefore, the difference between how non-adopters and adopters rated video on the relative advantage gained, video's compatibility with their work, and the visibility (observability) of video was statistically significant and could account for the decision to adopt or not adopt video into their work routine, while the measures for observability need to be revisited in future studies. The low reliability for the measures for complexity may be the reason the difference between the means of the adopter and non-adopter group was not found to be statistically significant.

H6: Demographic characteristics will be statistically significant among adopters versus non-adopters of video.
An analysis was conducted to compare the non-adopters group and the adopters group on demographic information such as age, education, gender, years of experience, newspaper circulation, and size of newsroom, but none were found to be statistically significant, thus based on these findings, H6 was not supported. This may be due to the small sample size, the fact that video technology has spread so extensively through the community of newspaper photojournalists that essentially the majority of photojournalists in every demographic collected has adopted the technology or the homogeneity of the community.

Diffusion of Innovations theory explains that rate of an adoption of a technology is faster if that population or community shares many similar interests, a common language, and demographics. The demographics collected on the sample of over 500 photojournalists show that around 80% are men, the ages range from 18-61 years old, and all sized papers are represented, yet these staff photojournalists share many characteristics by virtue of their job choice. Photojournalists share a common language of the technological and creative elements of photography and well as a fundamental interest in journalism. The community of photojournalists, although dispersed across the country, can be considered a very similar group of people. And Rogers (2003), in the more recent edition of his book, admitted that with the advent of the internet and social media, physical proximity now matters less in the model and perhaps homophily matters more.

Therefore, how strongly a newspaper photojournalist agreed that video rated high on the attributes of relative advantage, compatibility, and observability may serve as a better indicator of whether they would adopt the technology in their work than any of the demographic information gathered about the participants. Their perception of the attributes of video technology was the deciding factor to adopt or not adopt video technology in this case. Rogers (2003) states that demographics don’t always have to be factors to adoption but that the innovation’s characteristics can also play a role. In this study the innovation's characteristics were better indicators than demographics that were collected.
CHAPTER 5

CONCLUSIONS AND DISCUSSION

RATE OF ADOPTION AND TIME SPENT ON VIDEO

The innovation of video usage was adopted by 84% of the photojournalists surveyed in this study, evidence that video technology has proliferated through a large majority of newspaper photography departments. Rogers (2003) categorized adopters by their rate of adoption. The first photojournalists to adopt video are categorized as innovators (the first 2.5%), the second group are called the early adopters (the next 13.5%), followed by the early majority (next 34%), the late majority (next 34%), and ending the adoption process with the category labeled the laggards (the remaining 16% of the population).

Based on these findings, Rogers' first four adopter categories — the innovators, early adopters, early majority, and late majority adopters — have incorporated video into their work, and according to Diffusion of Innovations theory the last 16% of adopters are categorized as laggards (Rogers, 2003). Therefore we can say that video is far along the diffusion curve with only the laggards still resisting this evolution in photojournalists' work.

The survey findings show that not only are a high percentage of photojournalists shooting video, but 51% of these adopters are shooting it often or always, and 72% say that recording video takes up more of their time than shooting stills. These findings illustrate a dramatic shift from the traditional work of the newspaper photojournalist (Santana & Russial, 2013; Yaschur, 2011) to that of the converged media visual journalist who now spends much of their time recording video and audio in addition to still images.

Why video has diffused so quickly throughout photography departments is not clear. Although the percentage of adopters to video is indeed high in this study, this number may be high because of a fast adoption rate or because of repeated layoffs in the newsroom. Did the percentage of photojournalists recording video soar or did the total number of photojournalists working for newspapers shrink, with the video adopters surviving that downsize? The answer is probably both, but to what degree each plays in the adoption rate is uncertain.
Results from this study indicated that the process of adoption was not a simple yes or no question, and that to truly understand adoption of technology, one should discern why (the pressures and external motivations for adopting technology) and the how (the re-invention of the technology to make it more compatible with their work and less complex to use) the innovation is adopted. This study, in the observation and interview phase, was able to focus not only on the adoption, but also perhaps more importantly, on the adaptation of video technology by photojournalists. If photojournalists were limited to shooting video in the same style as television videographers, the rate of adoption might not be so fast.

While it is hard to imagine a return to the traditional routine of shooting still images, the percentage of photojournalists’ time spent shooting video may change depending on the requests of management, or could possibly decrease as photojournalists learn how best to incorporate it into their work. Photojournalists may be spending a majority of their time on video because they are still learning video technology. The addition of video into their work is relatively new, and many photojournalists are still on a steep learning curve. Therefore, in the near future, the percentage of time dedicated to video may decrease as more photojournalists become comfortable with the video technology and the additional equipment.

### Equipment and Juggling Stills and Video Tasks

The equipment used while on assignment has expanded far beyond still cameras, the notebook and pen for still photojournalists. It was observed that equipment was often added to their camera bags in order to make video technology easier for them to record. Gibs, one of the photojournalists observed, mentioned that he was willing to adopt technology if the innovation saved him time and made his job easier (J. Gibs, personal communication, March 12, 2013). Photojournalists the researcher observed preferred to shoot video with their smaller, lighter, and simpler dSLR cameras to that of the dedicated video camera, even if it meant carrying two, or even three dSLR cameras with them on assignment. Now that video was part of their job description, Gibs, Cruz and Peters found that shooting video with the dSLR video camera and all its add-ons such as the Zakuto loupe made recording video easier.

Notably, many photojournalists used their smartphone to shoot stills, video, and even stream live video. In fact it was observed that while photojournalists used their smartphone
to photograph still images or record video or audio, they sometimes received or needed to make a phone call. Ironically, the observed photojournalists had found that their iPhone was almost too useful for journalistic purposes and that they needed an additional phone just for communicating with co-workers back in the newsroom.

The iPhone was also enlisted to help shoot video and stills simultaneously during a decisive moment. The moment when the photojournalist needed to decide between video and stills was mentioned as a concern by photojournalists in the observational stage of this study. Photojournalists observed were trying to rectify this problem by finding ingenious ways to shoot both still and video at the same moment. By mounting an iPhone on top of his dSLR camera, Cruz, tried to stream live video shot with the iPhone, while he shot stills in between. This experiment didn't work in the end, because of lack of communication back in the newsroom, but it was clear that it was possible. Photojournalists were observed willing to try anything to not allow the adoption to video technology take over their still images completely. They were adopters to other technologies in an effort to maintain more of their traditional work style shooting still images.

As shown in the qualitative findings, these moments were the most difficult for photojournalists: what to do when faced with the decisive moment. The national survey results show that photojournalists have not set upon one way to do this, but are trying several different methods. Of the three methods for shooting video and still images simultaneously, photojournalists preferred shooting two cameras at the same time (one for video, another for stills), or shooting both stills and video with one, interrupting the video or stills with a quick recording of the other content on a dSLR. The least popular method was to get a frame grab from the video shot. Photojournalists generally did not want the still image to devolve into merely a frame grab of video, citing quality and style concerns. Frame grabs are still not as good as the still image, and to shoot stills versus video requires different techniques and skill sets and does not lend itself to the same type of images.

Former still shooter and now videographer Jeff Grim, argues that the two styles have their own strengths. As discussed earlier, the TV style of shooting video was always on a tripod, at the same height, with no movement, while most newspaper photojournalists found this to be incompatible with their work style as they wanted to be more discrete. “We (newspaper photojournalists shooting video) can learn from them (TV). They have a lot of
good reasons for the things they are doing. While we are good at long term projects, we can learn how to be faster from them,” said Jeff (J. Grim, personal communication, June 11, 2013). As for the newspaper photojournalistic style, he mentioned that they “are building on their own tradition. We don't want to lose that distinction, to melt into the same pot would be a mistake,” said Jeff (J. Grim, personal communication, June 11, 2013).

Higgins argued on another occasion that still shooters were making better video than their TV station counterparts because of their understanding of the singular moment. Their still image background, capturing the decisive moment was good training for doing video better than tradition TV videographers. “(Still photographers) reverse engineer it,” Gibs agreed, “shooting video like it was a still image,” (J. Gibs, personal communication, May 25, 2013). This supports the qualitative findings that photojournalists are trying to avoid the staged and intrusive effect of video on a tripod, which is the traditional TV style of recording video.

DIFFUSION OF INNOVATIONS ATTRIBUTES

When analyzing the adopters versus the non-adopters by demographics (education, age, gender, size of media company, newspaper circulation), the hypothesis was not supported. In this study, the best indicator of adoption was how the subjects perceived certain attributes of video regarding the relative advantage it would give an adopter and the technology's compatibility with their work style. Not only were the measurements for both attributes found to be reliable, the difference between the means of the adopters and non-adopters was found to be statistically significant. While the Diffusion of Innovations theory states that the two groups will perceive each attribute differently, Rogers (2003) does say that relative advantage and compatibility have been shown to be the strongest of the all the attributes indicators, as confirmed in this study.

The attribute of complexity was not statistically significant, but that may be due to low reliability scores on those measurements. This finding, therefore, is inconclusive. This outcome could be a result of the measurements and not due to the attribute not being an indicator of adoption in this case. While the measurement for the adopter groups' perception of observability was low (.59), the difference between the adopter and non-adopter groups was found to be very significant (p < .001).
Trialability as an attribute measured by both adopters and non-adopters was less certain. While the measurements used in the study were found to be very reliable, the results show that the two groups did not measure their perception of trialability differently to be scientifically significant. This would suggest that the laggards have not been deterred by a lack of a chance to try the technology, but rather it is possible that they see video technology as having very little compatibility with their work and not giving them a strong relative advantage in their work, the attributes that were found to be the best indicators of adoption versus non-adoption.

With the advent of the internet, not only may physical proximity not matter as much, but innovations can spread more quickly around the world. Future diffusion studies will need to focus on the internet as the mode of communication about new innovations and research how the internet and more recently, social media affects the diffusion of media technologies, especially within specialized communities such as media practitioners.

It is noteworthy that neither adopters nor non-adopters rated video high (or strong agree) on any of the attributes, yet the innovation has diffused widely through newspaper photo departments of all sizes, across the country. There are many possible explanations for this phenomena, including managerial pressures to adopt video, economic necessity, the homogeneous nature of this population (as discussed above), and the possibility that this is a technologically savvy community.

While individuals' perception of the compatibility and observability of video technology, and the relative advantage gained by adopting to video can explain much of photojournalists' motivation to adopt the technology, many of the photojournalists in the sample may not have a choice. Diffusion of Innovations theory also takes into account the type of innovation-decision in the process. In this case, the innovation-decision may be a mix of optional and authority innovation-decision. While some photojournalists may have had a choice to adopt video, many might have been told to learn video or risk losing their jobs.

According to the director of photography at the newspaper observed in this study, “The reality is that you have to shoot video” (Director of Photography, personal communication, June 11, 2013). Newspapers, photography departments, and individual photojournalists are currently facing incredible pressures while trying to figure out how to
survive the converged media landscape. Newspaper photojournalists are on the front lines of that struggle, learning to record content for the print version that still arrives on a diminishing number of doorsteps in the morning, but also for the newspaper’s website and in some cases, a broadcast component of their media company.

The process of authority innovation—decisions, especially during an economic recession, is in need of more study. Does this pressure hold more power during recessions, and if so, do economic recessions lead to faster rates of diffusion of certain types of innovations in an effort to survive economically? While this study focused on adoption rate, equipment and adaptation of the technology, future surveys and in-depth interviews and participation observation could focus on the origin of motivation for the adoption of technology in the contemporary converged media landscape. Is the decision to adopt an innovation a personal choice or an outside pressure? In the constant downsizing of newsrooms of this decade, these types of pressures need to be better understood.

This study shows that the adoption of video has diffused throughout the field and that photojournalists are spending less time shooting still images as their work responsibilities expand to multimedia content, but this study does not examine other possible reasons why photojournalists have adopted video. The pressure placed on photojournalists by their parent media organization to use these multimedia tools in their daily routines of reporting on a story is in need of study. An understanding of these pressures would provide insight into the rich context in which photojournalists are choosing to adopt video or not.

Also, rapid adoption of video could be explained by examining prior adoptions of innovations by this community. Rogers (2003) explained that any adoption cannot be fully understood in isolation. Newspaper photojournalists could fall under what Rogers’ (2003) calls a “technology cluster” that naturally formed after the prior adoption of other innovations such as digital photography. After photojournalists went through the adoption process of pagination, film scanners and then digital cameras, they may see video as an interrelated technology that is merely the next technology to adopt to remain relevant in their field.

Previous research on the dramatic change in the photojournalists work routines studied small sample sizes (Santana & Russial, 2013; Yaschur, 2011) or surveyed photo editors and not directly photojournalists (Santana & Russial, 2013). This study is the first to
attempt to survey the entire population of newspaper photojournalists. Although a complete census was not possible, the entire photography staff of 80% of newspapers in the U.S. with a daily circulation over 30,000 received the survey. Not only was a high percentage of newspapers represented, the survey was completed by 41% of that sample. Therefore, this study can provide a more accurate account of the rate of adoption of multimedia technologies by photojournalists.

LIMITATIONS

While this study is the first to provide detailed multi-method examination of the extent of diffusion of video technology in newspaper photography departments, it is only a snapshot of a constantly developing phenomena. Santana and Russial (2013) and Yaschur (2012) called for long term study of the changing role of the photojournalist working for converged media, required to plot out the changes in still and video recording over time.

While quantitative surveys can gather information from a larger sample of people and produce results that are generalizable to the entire population studied, surveys have limitations when used by themselves to understand news production because they are standardized and many questions may not be relevant to some journalists as work routines differ greatly among them (Babbie, 2010). Surveys can also lack the context in which decisions are made. "The survey researcher rarely develops the feel for the total life situation in which respondents are thinking and acting that the participant observer can" (Babbie, 2010, p. 287). A survey can easily measure irrelevant variables if it is constructed without sufficient knowledge of the broader context, while the participant observer method can help a researcher to isolate the important variables before the large sample survey is conducted. This limitation for surveys does not apply to this study because the survey was constructed based on the observation and interview research.

A survey relies on honest and accurate self-reporting of the participant's level of adoption of video. There is possibly more incentive to say that one is an adopter than a non-adopter to new technology, thereby exaggerating the number and percentage of video adopters. This pressure might come to play even in a confidential online survey, as photojournalists may want perceive themselves to be adopters.
Also, while this study attempted to conduct a census sample, and administer this survey to a complete list of photojournalists working for newspapers with circulations over 30,000, contact information for all staff photojournalists could not be obtained. Fifty-seven newspapers did not provide contact information on their website, and did not reply to an email or phone call. Therefore, a true census sample was not possible.

It must be noted that this study is unable to quantify exactly how much time is spent recording video versus shooting still images, which would require different measures, more specific than the “never, almost never, sometimes, often and always” scale used in this survey. Future research might include a smaller random sample of photojournalists who track in a daily work diary how many assignments they have, and how often and how much time they spend recording different types of content. And this study identified how important the adaptability of a technology may be in its rate of adoption. Although the re-invention of technology is acknowledged in Diffusion of Innovations theory this requires further study in the age of mobile, online, multimedia journalism where nearly every journalist is a converged journalist (Deuze, 2007, Paterson & Domingo, 2008, 2011; Singer, 2004).

In conclusion, where is this transformation going? Once newspapers make the move permanently and perhaps exclusively to digital publishing on the web and mobile media, what type of visual content will be recorded? Will still images give way to video and frame grabs? And will the job duties of videographers and photographers meld into one type of content provider – the visual journalist? Answers to these questions may only come with time, but investigating current changes in the work of news photojournalists could give us solid clues as to where visual journalism is headed. This study is merely a snapshot look at a transformation over time, and should be re-visited in the near future to see what has changed.
REFERENCES


APPENDIX

SURVEY
SURVEY

1. While on assignment, what type of content are you shooting or recording?
   Still images, audio and video (1) SKIP TO #7
   Still images and audio only (no video) (2)
   Video, audio only (no stills) (3) SKIP TO #7
   Still images only (no video or audio) (4)
   I don't go out on assignment, I am a manager of the photography department (5) SKIP TO END

2. How often do you shoot or record this content while on assignment?
   Never    Almost never    Sometimes    Often    Always
   Still images only   ___    ___    ___    ___    ___
   Still images and audio   ___    ___    ___    ___    ___
   Audio only   ___    ___    ___    ___    ___

3. You stated that you shoot only still images or still images with audio. How strongly do you agree or disagree with these statements?

   Shooting video would improve the quality of my visual story-telling.
   Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)

   The disadvantages of shooting video far outweigh the advantages.
   Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)

   Shooting video would improve my status within the field.
   Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)

   Shooting video would give me more job security.
   Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)
Shooting video would make me a more valuable employee to my media organization.
Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)

4. How strongly do you agree or disagree with these statements?

Shooting video seems compatible with shooting still images:
Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)

Shooting video would fit well with the way I like to work:
Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)

Shooting video seems like it would fit well with how I want to tell stories:
Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)

Shooting video seems simple to do:
Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)

Shooting video appears to require a lot of time:
Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)

Learning to shoot video seems easy:
Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)

5. How strongly do you agree or disagree with these statements?

I see a lot of journalists shooting video in the field.
Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)

In my media organization, many of my co-workers are shooting video.
Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)
Video cameras are very visible during my normal work day.
Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)

I have had a lot of opportunities to try shooting video.
Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)

Training is readily available in how to shoot video.
Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)

There are a lot of people available to help me learn video.
Strongly disagree (1) Disagree (2) Neutral(3) Agree(4) Strongly agree(5)

6. How likely are you to shoot video in the future?
Not at all likely ___ SKIP TO #20
Somewhat likely ___ SKIP TO #20
Very likely ___ SKIP TO #20
Definitely likely ___ SKIP TO #20

7. Approximately how often do assignments require you to shoot...?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Almost never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Still images only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only video</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Still images and video</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Still images and audio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Still images, video, audio</td>
<td></td>
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</tr>
</tbody>
</table>

8. When you shoot both stills and video on the same assignment, which content takes more time?
Stills ___
Both equally ___
Video ___
9. When shooting video, how often do you use a dSLR camera with video capability or a dedicated video camera?
   Usually a dSLR
   Both equally
   Usually a dedicated video camera

10. How often do you use a monopod or a tripod in these circumstances?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Almost never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monopod for stills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monopod for video</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tripod for stills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tripod for video</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. How often do you use a tripod when shooting video in these situations?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Almost never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>An interview</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A press conference</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A sport event</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Everyday life activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. How often do you find yourself trying to shoot video and stills at the same, exact moment? Never (1) Almost never (2) Sometimes (3) Often (4) Always (5)

13. Which method do you use to shoot both stills and video at the same moment, and how often?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Almost never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>One camera records</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>video on tripod while shooting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>stills with other camera</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
While recording video, ___ ___ ___ ___ ___ ___ interrupt to shoot stills

Grab a frame of the ___ ___ ___ ___ ___ ___ video to use as a still

Other ________________________________________________

14. How often do you bring these cameras and microphones on assignment with you?

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Never</th>
<th>Almost never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>dSLR w/ video capability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedicated video camera</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lavalier mic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-sized shotgun mic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compact dSLR shotgun mic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Omnidirectional mic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15. How often do you take these accessories on assignment?

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Never</th>
<th>Almost never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Go-pro</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audio recorder</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tripod</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monopod</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LCD loupe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clip-on monitor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
16. How often do you take this equipment on assignment with you?

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Never</th>
<th>Almost never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporters notebook, pen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile phone (for tasks other than calling people)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WFT (Wireless File Transmitter)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portable MiFi</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laptop computer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

17. How strongly do you agree or disagree with the following statements?

- Video has improved the quality of my visual story-telling.
  - Strongly disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly agree (5)

- The advantages of shooting video far outweigh the disadvantages.
  - Strongly disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly agree (5)

- Shooting video has improved my status within the field.
  - Strongly disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly agree (5)

- Shooting video has given me more job security.
  - Strongly disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly agree (5)

- Shooting video has made me a more valuable employee to my media organization.
  - Strongly disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly agree (5)

18. How strongly do you agree or disagree with the following statements?

- Shooting video is compatible with shooting still images.
  - Strongly disagree (1) Disagree (2) Neutral (3) Agree (4) Strongly agree (5)
<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shooting video fits well with the way I like to work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Shooting video fits well with how I want to tell stories.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Shooting video is simple to do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Shooting video requires a lot of time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Learning to shoot video was easy.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

19. How strongly do you agree or disagree with these statements?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I see a lot of photojournalists shooting video.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>In my organization, many of my co-workers are shooting video.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Video cameras are very visible during my normal work day.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I have had a lot of opportunities to practice shooting video.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I received adequate training in how to shoot video.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
There were a lot of people available to me to teach me video.
Strongly disagree (1)  Disagree (2)  Neutral (3)  Agree (4)  Strongly agree (5)

20. Do you use your mobile phone other than as a phone in your daily photojournalism work?
   Yes __
   No __

21. How do you use your mobile phone in your journalism work? (click on all that apply)
   Texting co-workers ___
   Shooting stills ___
   Recording audio ___
   Recording video ___
   Shooting live video ___
   Other ____________________________________________________________________________

22. How many years of professional experience do you have recording each type of content?
   Still images ___ (pull down menus)
   Audio ___
   Video ___

23. Just a few questions and then you are all done. Are you staff or a freelance photojournalist?
   Staff photographer ___
   Freelance photographer ___  SKIP TO #29

24. What type of media company do you work for?
   Newspaper (print only) ___
   Newspaper (print and online) ___
Newspaper (online and broadcast) ___
Wire service ___
Online-only publication ___
Radio ___
Television ___
Magazine ___
Other _______________________

25. What is the daily circulation of your newspaper?
___ (pull down menu)

26. How many days of the week is your newspaper published (in print form?)
___ (pull down menu)

27. What is the size of your media organization?
# of journalists employed ___ (pull down menu)

28. What is your job title?
Photojournalist ___ SKIP TO #30
Videographer ___ SKIP TO #30
Visual Journalist ___ SKIP TO #30
Photo Editor ___ SKIP TO #30
Multimedia journalist ___ SKIP TO #30
Other ______________________ SKIP TO #30

29. As a freelancer, how often do you work for each type of media organization?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Almost never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspaper (print only)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newspaper (print, online)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newspaper (online,broadcast)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wire service</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
30. Where do you primarily work as a photojournalist?
City ___________________________
State ___________________________
Country ___________________________

31. What is the highest level of education you have completed?
High school ___
A.A. Or Technical degree ___
Bachelors degree ___
Masters degree or higher ___

32. How old are you? ___ (drop down menu)

33. What is your gender? ___

34. Thank you for participating in this research project! Please input your email so that you can be entered into the raffle to receive one of the $50 gift certificates to the B&H online photographic supply store. Your email address will remain confidential and will only be used for the purposes of this drawing.
______________________________