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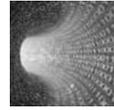
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A study of content diversity in online citizen journalism and online newspaper articles

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Abstract

The presence of a diversity of information offers citizens access to a range of ideas, expertise and topics. In this study, a measure of content diversity was created to determine whether online citizen journalism and online newspaper publications were serving this function in the USA. Based on the findings from a quantitative content analysis ($n = 962$), online citizen journalism articles were more likely to feature a greater diversity of topics, information from outside sources and multimedia and interactive features. The findings suggest online citizen journalism content adds to the diversity of information available in the marketplace.

Key words

blog, citizen journalism, content diversity, democracy, diversity, hyperlink, multimedia, newspaper, topics

Social and technological forces are pushing the field of journalism to evolve, and as it moves forward, a re-evaluation of what journalism should look like is occurring (Gillmor, 2004; Merritt and McCombs, 2004; Project for Excellence in Journalism, 2007). One category of people affecting the field of journalism are online citizen journalists. This research defined an online citizen journalist as *an individual who intends to publish information online meant to benefit a community*. The presence of online citizen journalism content in the marketplace may add to the diversity of information that citizens have access to when making decisions related to the betterment of their community or their life. The consumption of a diversity of content can promote a greater awareness of self

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because it exposes people to differing ideas (Kim and Ball-Rokeach, 2006; Plaisance, 2005; Tilly, 1978).

Diversity is also a matter of accuracy. More than 60 years ago, the Hutchins Commission on Freedom of the Press stressed the need for the news media to paint a more representative picture of society through diversity (Blanchard, 1977; Commission on Freedom of the Press, 1947). The Hutchins Commission stressed this need, in part, due to the increasing consolidation of news organizations (Blanchard, 1977; Siebert et al., 1956). The consolidation of traditional news media outlets has been said to have led to a similarity in the presentation of content across media outlets (Bennett, 1996; Gitlin, 2003; Porto, 2007). An Online News Association (2009) survey of online traditional journalists found a notable number (31%) of respondents believed one of the biggest changes of the move online were the diversity of voices present. Pease (1990) argued past attempts of diversity by newsroom leadership have failed morally and economically because they have focused on hiring minorities in the newsroom as a way to become more diverse. Socialization of journalists negatively affects the presence of content diversity. Training, adherence to routines and the application of similar news values to stories may be partially causing factors related to the likeness in content available to the public (Shoemaker and Cohen, 2006; Shoemaker and Reese, 1996). Traditional journalists tend to tailor their coverage in support of the status quo (Shoemaker, 1984). Pease (1990) argued efforts should instead concentrate on diversifying content and coverage. The diversity of content at the organization level may be declining because of the increasing number of online competitors and declining profits. Pease argued newspapers typically narrow their coverage to retain readers when faced with a threat of competition. However, niche coverage may not fully meet the tenet of accuracy because demographically tailored coverage can lack representativeness.

The purpose of this article is to determine whether publication type (online citizen journalism and online newspaper) is related to the diversity of information provided to citizens. Specifically, this research created a measure of content diversity to make these comparisons. Measures used to define content diversity were (1) the diversity of topics, (2) the use of outbound hyperlinks and (3) the inclusion of multimedia and interactive elements.

This research analyzed the selected publications through the use of a quantitative content analysis. This type of analysis is useful for measuring large quantities of data. The product of a journalist is important to assess because 'readers . . . care about what shows, not how it got there. They judge us on output, not process' (American Society of Newspaper Editors, 2002: 3).

The overarching purpose of this research is to add to a very limited amount of published research on online citizen journalists (Carpenter, 2008; Schaffer, 2007). Many traditional news organizations are adopting citizen content (Brown, 2005; Schaffer, 2007). For the purpose of this investigation, traditional news media are commercial news organizations that have historically focused on the daily delivery of information concerning a geographic (e.g. local, state, national, international) area in either a textual, audio or visual format offline. In the online realm, audio, video and text can be intertwined to more efficiently create layers that sometimes promote a deeper level of understanding.

Theoretical framework

Online citizen journalism and traditional journalism

The perceived absence of diversity of information fuels the advent of new information start-ups including sites created by online citizen journalists. There are few studies conducted on online citizen journalism publications; however, differences in content may be attributed to the perceived variation in their consumers (Carpenter, 2008; Schaffer, 2007; Shoemaker and Reese, 1996). Citizen-generated content is likely published for smaller, more homogenized audiences on a less regular basis, which encourages citizen journalists to produce content dissimilar from that of daily newspaper journalists (Johnstone et al., 1976; Tichenor et al., 1980). The Knight Citizen News Network lists more than 450 citizen journalism sites in the USA (Schaffer, 2007). The selected online citizen journalism sites for this study encompass only information sites where content focuses on the coverage of a particular geographic area (e.g. Hamtramck, Michigan; Chicago, Illinois). There are no figures available that estimate the number of online citizen journalism consumers. However, research indicates that anywhere from 7 to 24 percent of American adults regularly read blogs (CNN.com, 2005; Hargrove and Stempel, 2007; Pew Internet and Life Project, 2008). Blogs are an application commonly used by online citizen and newspaper journalists to distribute their content.

Research conducted on alternative, neighborhood, weekly, urban, dissident and community-oriented publications can shed light on citizen journalism publications (Donahue et al., 1972; Duncan, 1952; Gladney, 1990; Hindman, 1998; Janowitz, 1952; Kessler, 1984; Reader, 2006; Ward and Gaziano, 1976). These types of publications can be categorized as 'smaller' publications. Smaller publications primarily cover issues, people or events that affect small communities, neighborhoods or suburban areas. Smaller publications, whether urban or rural, emphasize community consensus over conflict, advocacy over objectivity and interpretation over straight reporting (Donahue et al., 1972; Gladney, 1990; Hindman, 1998; Janowitz, 1952; Johnstone et al., 1976; Reader, 2006; Schaffer, 2007; Tichenor et al., 1980). Smaller publications balance their community's needs with their desire to produce professional journalistic content. However, they are not as commercially motivated as online newspapers. Their allegiance typically teeters toward their community (Donahue et al., 1972; Reader, 2006; Weaver et al., 2007), and content reflects their own and local community leaders' viewpoints (Carpenter, 2008; Hindman, 1998; Janowitz, 1952). Recent survey research supports this community-booster role; many online citizen journalists feel that their online publications solve community-level problems and increase local voter turnout (Schaffer, 2007). Lacy (1992: 88) wrote in a commentary on the future of newspapers saying that 'journalists have a tendency to think of the newspapers as "their" newspaper. Yet to be successful a newspaper needs its readers to think of it as "their" newspaper.' The connection smaller publications provide has likely helped them survive change.

However, little is still known about the value of content from online citizen journalists in the marketplace. Research by Carpenter (2008) showed online citizen journalists were less likely to rely on media routines, producing stories that use more unofficial sources

and opinion in their stories. People have argued they act as a watchdog for the traditional media and for their community (Kurtz, 2002; Rosenberg, 2002). Citizens can use the web to relay information on public affairs to residents. For example, a few Tuscaloosa, Alabama residents attend local government meetings and later share electronically the meeting details with fellow residents (Morton, 2009).

Content diversity

Content diversity serves varying public functions. Graber (2003: 147) argued people should have access to a broad array of stories because people are interested in different topics. She said 'Democracies need citizen monitors, but not everyone needs to monitor the same thing. To serve diverse groups of citizens adequately, the news media must be a smorgasbord, rather than a hearty one-course meal.' It has also been argued that a diversity of information prevents sources from manipulating policy and the news media for their economic and social gain (Entman, 2008; Gans, 1992).

Diversity is typically measured by analyzing the diversity of sources present within articles, diversity of staff present within newsrooms or diversity of media information sources or ownership located within a geographic region. This research contributes to diversity literature by examining the diversity of content. Voakes et al. (1996: 585) defined content diversity as 'a dispersion of the representation of ideas, perspectives, attributions, opinions or frames within a news product, and within the context of one particular issue.' Content diversity is distinct from source diversity because the inclusion of a diversity of sources does not always equate to a diversity of ideas in articles. According to the Voakes et al. (1996) study, smaller newspapers contain greater content diversity. These authors operationalized content diversity as diversity of frames present within an article. Lee (2007b) and Pease (1990) have speculated larger newspapers' desire to profit has led to a decrease in the diversity of content because they seek to attract elite white readers, which diminishes the variability in content. For this present study, diversity of content was measured by analyzing the diversity of topics, the use of outbound hyperlinks and the number of multimedia and interactive elements present within the articles.

Primary topic   Authors from the Project for Excellence in Journalism (1999) argued that the more topics covered by the news organization, the better the news organization. They claimed a diversity of topics better reflects a community in its entirety. This research measured the diversity level of articles by utilizing Simpson's D, which measures the proportions across categories, and it is considered an optimal measure for diversity because of its interpretative capability (McDonald and Dimmick, 2003; Simpson, 1949).

Online citizen journalism publication content may be similar to content found in smaller publications. Smaller community publications have been found to focus their coverage on athletics, human interest and social events (Janowitz, 1952; Tichenor et al., 1980), while larger publications tend to concentrate on crime and government topics. Shim (2006) reported government, military/national security and crime topics dominated US elite newspaper front pages. State of the News Media (Project for Excellence in

Journalism, 2006) research indicated topics such as crime, business, government and foreign relation stories were reported in greater proportion compared to other story topics such as entertainment, accident and disaster, science and elections in newspapers.

As far as the prevalence of online news topics, two recent studies found differing results. Tremayne et al. (2008) found out of 14 topic categories that government, business and war dominated small, medium and large-circulation online newspapers in the USA, while science, education and religion received little attention. State of the News Media research (Project for Excellence in Journalism, 2008) showed US foreign affairs and non-US foreign affairs made up 47 percent of the content found on home pages, while entertainment, science, the environment and immigration made up the lowest percentage of topics found online. However, their research analyzed AOL news, CNN.com, Google news, MSNBC.com and Yahoo News. Thus, their findings may not reflect topics found in online newspapers.

Hyperlink use   Hyperlinks can connect an audience to a diversity of viewpoints (Lee, 2007a). Previous research has shown the inclusion of hyperlinks by the US news media increased between 1997 and 2001 (Tremayne, 2004). People spend more time reading and can learn more when links are present in a story (Ketterer, 2001).

The use of within-site or outbound hyperlinks can be used to determine a journalist's ability to link to content not produced by the journalist. Hyperlinks direct users to another web page of content. Outbound links leave the site connecting to content not produced by the publication, while within-site links direct users to content produced by the news outlet. The Project for Excellence in Journalism (2008) found traditional news media companies are broadening the definition of journalism. No longer is it all about original, branded content. News sites are now helping users navigate through content that comes from other sources. This research assessed content diversity by identifying where the link directs users – to material produced by the organization, or to information produced by someone not affiliated with the organization.

Links to outside content give readers access to a greater diversity of information from alternative sources. The blogging phenomenon has encouraged the trend to link to outside content. Bloggers link to outside sources because links acknowledge the credibility of outside sources, provide background information and demonstrate a blogger's connection with other bloggers. Bloggers cultivate their community and seek to increase readership by linking their blog to outside blogs. Knowledge evolves through the process of sharing (Dimitrova and Neznanski, 2006; Harp and Tremayne, 2006; Herring et al., 2005; Hiler, 2002).

Studies have shown that newspapers rarely link to content outside their host site; instead they usually link to information contained within the host news site. A study examining the immediate coverage of the Timothy McVeigh execution by 15 online US newspapers found the majority (94.8%) of newspaper stories linked to content within the newspapers' own site (Dimitrova et al., 2003). A study by Rosen (2006) found the majority of journalists who blog do not link to content outside the host newspaper site.

Concern arises related to whether information outlets should link to information outside the organization because they may be responsible for the veracity of the content. One news organization, BBC News, has attempted to abstain from that responsibility by

posting a disclaimer that they are not responsible for content created by outside sources (BBC News, 2007).

Attributes of stories   Today's 'new' media are really not so new because most of the applications are extensions of existing applications or media. Technology has historically converged. For example, the telephone converged with the telegraph by utilizing the same wire lines as the telegraph for limited service (Shaw, 1967). Audio and pictures converged to form television, heightening audiences' connectedness to the outside world. In the online environment, the delivery of news is not limited to text, video or audio; rather news can be packaged in the format that is most ideal for the communication of that issue.

Graber (2001) argued that in order to encourage younger people to become politically involved, information must be presented in a diversity of formats. She said younger people prefer to experience their media through visuals and interactive features. Mendelson and Thorson (2004) argue there are two types of learners: visualizers and verbalizers. Visualizers process information more quickly by viewing images, while verbalizers prefer to learn by reading text. To meet the needs of both types of learners, a diversity of format types should be available.

US newspapers have been traditional textual. Research shows photos and illustrations made up 10–20 percent of the content in the early 1980s (Bogart, 1985). Despite the potential to be diverse online, content on the internet has been shown to be predominantly textual (Li, 1998). State of the News Media authors found news organizations rarely include video, photo essays or galleries, or graphics in their stories (Project for Excellence in Journalism, 2005). Other research supports these findings, indicating most journalists do not hyperlink to multimedia content (Dimitrova et al., 2003; Massey, 2004). The Project for Excellence in Journalism (2008) authors found graduating journalists spend most of their time writing. Survey research has shown that online newspaper editors in the USA ranked the inclusion of interactivity and multimedia low as an important quality of online news (Gladney et al., 2007). Even though online is predominantly textual, recent research has shown the inclusion of multimedia elements was on the rise, especially video, in 2006 (Tremayne et al., 2008). An online journalist can include multimedia and interactive features within or adjacent to articles that encourage understanding, easier navigation and social presence (Walther et al., 2005). Multimedia article features measured in this study were photographs, video, audio, slideshows and graphic information.

Even though the availability of multimedia can help people process information, news outlets should exercise control when selecting article features. Not every story is visual. Based on the limited-capacity theory, users can only absorb so much information (Lang, 2000). High levels of interactivity or multimedia can overload one's cognitive resources creating a sense of frustration and reduced memory (Bucy, 2004; Mendelson and Thorson, 2004).

Interactivity has been touted as a key component in attracting news consumers. A Pew Center for Civic Journalism (2001) survey conducted on newspaper editors argued the future of news is dependent upon interactivity with consumers. The concept of interactivity focuses on the exchange of information between users and producers (Walther

et al., 2005). Newspapers, radio news and television news are considered low in interactivity due to their primarily linear structure (Eveland, 2003). The inclusion of polls in articles has been recorded to determine whether news outlets seek the opinions of users (Gade et al., 1998).

Research questions

RQ1: Will online citizen journalism or online newspaper articles feature a greater diversity of content?

RQ1a: Will online citizen journalism or online newspaper articles feature a greater diversity of topics?

RQ1b: Will online newspaper or online citizen journalism articles more likely average a greater number of outbound links?

RQ1c: Will the inclusion of attributes (video, audio, slideshows, polls, photographs, information graphics, graphics and maps) differ in online citizen journalism and online newspaper articles?

Method

Quantitative content analysis

This study employed a quantitative content analysis of articles from English-language daily newspaper and citizen journalism websites in the USA. This investigation was restricted to newspapers that had an online presence and did not include websites for radio and television outlets. Newspaper websites were preferred to radio and television news websites because online newspaper sites are greater in number and geographic diversity.

Unit of analysis

The unit of analysis for this investigation was the individual text article located on the home page of the news website for one day's time. Articles also included editorials, opinion pieces, blog posts and columns. Analysis was restricted to the home page because an examination deeper into the website would be difficult due to the growing complexity of news sites. In addition, limiting the analysis to the home page is intended to encourage uniformity in coding (Greer and Mensing, 2006; Ha and James, 1998).

In this sample, wire articles were excluded because many of the online publications featured the same articles across publications diminishing the variability in content. Article categories also excluded from the analysis included sports articles and weather forecasts because rarely does coverage of such topics change over time (Project for Excellence in Journalism, 1999). In addition, other articles excluded were calendar of events, obituaries, wedding announcements, advertisements, multimedia without text (e.g. information graphics, maps, videos, audio, photos, graphics, slideshows), photo of the day, Dow Jones, top emailed stories, most popular articles, magazine articles, open threads, reader feedback, article corrections and comments adjacent to articles.

Online citizen journalism sample

A purposive sample of online citizen journalism sites was selected because no master online citizen journalism site list exists. To begin the selection process, Cyberjournalist. net was consulted. Cyberjournalist.net is a site that is dedicated to examining how technology affects the news media (Dube, 2007). At the time, it was the most recognized site listing geographically focused online citizen journalists. In early spring 2007, Cyberjournalist.net listed 77 US 'citizen media initiatives'. Each site was placed in one of two categories based on the home city of the publication from the Cyberjournalist.net list of 'citizen media initiatives'. The goal was to find two citizen journalism websites to represent each of the 50 states (one 'small' and one 'large' community from each state in the USA) to increase the representativeness of the sample. To accomplish this task of selecting two sites to represent each state, one site was selected because it covered a city with more than a total resident population of 100,000, and the other because it covered a city with fewer than 100,000 people (Demers, 1994). For example, the Glenwood Blog, based in Glenwood Springs (population 8564), and the MyMileHighNews, based in Denver (population 557,917), represented the state of Colorado.

However, the master Cyberjournalist.net list of 77 sites did not provide a diverse or large enough number of sites to represent all 50 states. To supplement the master sample list from Cyberjournalist.net, Placeblogger.com was used. Placeblogs are sites devoted to covering a particular neighborhood, city or region. To populate the list, the Placeblog directory was used, which listed 1011 placeblogs in the USA in early spring 2007 (Williams, 2006). Placeblogger categorizes online citizen journalism sites by states. The states missing online citizen journalism sites were randomly selected from the Placeblogger site within each state category. The final list of online citizen journalism sites totaled 72 sites; 51 percent of the sites were extracted from the Placeblogger directory. Iowa was the only state that had no citizen journalism site representing it, and 21 states had only one citizen journalism site representing their state.

Online newspaper sample

After the online citizen journalism list was complete, a matching technique was used to populate the online newspaper list. For the online newspaper sample, an online newspaper was matched to each citizen journalism site city. For example, in Alabama, The Birmingham Blog online citizen site's counterpart was *The Birmingham News* online newspaper. An online daily newspaper was not included in the final sample if a newspaper was not found to represent the home community of the citizen journalism site. A total of 50 online daily newspapers were found to match the online citizen journalism site's home city. The purpose of the matching technique was to increase the validity of the comparisons between each publication type.

Sampling procedure

Once the online citizen journalism and online newspaper lists were complete, the sampling procedure was determined. Analysis of online daily newspaper websites is difficult

because news can be updated hourly (Greer and Mensing, 2006). This creates content analysis challenges because citizen journalism content is updated less often than online newspapers.

This study utilized two different sampling techniques because of the likelihood there would be an overrepresentation of online daily newspaper content. Based on observational coder feedback, it was believed online citizen journalism sites updated their sites an estimated every two to three days, while online newspapers updated their content daily. Based on observations, online newspapers were more likely to change the story placement on the home page, rather than removing the story from the home page each day. Newspapers change the position of their content on the home page to create the appearance that their content is 'fresh'. Some newspapers featured all the day's content on the home page including content from past days as well.

To compensate for the expected fewer numbers of articles available daily, online citizen journalism content was captured every day for one month (March 2007), while online newspaper articles were captured every day for one constructed week during that same month. Articles were printed off at the same time each day. Ideally, online citizen journalism and online newspaper stories would have been captured at different points of the day to avoid systematic bias, and to capture a more accurate picture of news online since news can be updated throughout the day (Project for Excellence in Journalism, 2006). However at the time of the study, current programs (WebCopier, WebZIP, Website Ripper Copier) that capture a snapshot of page content with active hyperlinks could not handle capturing more than a few publications at a time. This analysis required the capturing of up to 122 sites at one time. Thus, articles were printed off at the same time each day and hyperlinks were marked on the printed version of each story.

Online newspaper and online citizen journalism story sample

This sampling procedure produced a total of 6485 articles. To make the study more manageable while maintaining the meaningfulness of the data, articles were randomly reduced because of the large number of online citizen journalism ($n = 2221$) and online newspaper ($n = 4264$) articles retrieved from the home pages. Articles were randomly reduced to 500 for online citizen journalism sites and 500 for online newspaper sites. Statistical analysis applied to a sample size of more than 6000 articles would have produced significant results because of the size of the sample. The purpose was to reduce it enough to make comparisons meaningful. From the available 1000 articles selected from the 50 online newspaper sites and 72 online citizen journalism sites, some articles were discarded because they featured sports, wire articles, or other excluding factors. After extracting the unusable articles from the 1000-story samples, 962 articles were available for analysis (480 online newspaper articles and 482 online citizen journalism articles).

Content diversity

Primary topic   Some of the topics stemming from the 2005 Project in Excellence in Journalism coding protocol were used in this study. Topics included news media,

technology, Gulf War II, entertainment, business/economy, crime/trial, science, inter-national/foreign relations, education, disease/health, government/elections, lifestyle, environment/sprawl/transportation, accident/disaster, human interest and other/can't tell. Coders identified topics by determining the greatest percentage of text within an article devoted to the subject.

Hyperlink use   Hyperlinks contained within the text of a story that directed users to a different website were counted. Email links and links located outside the text were not counted (e.g. 'link to the rest of the story', 'printer-friendly', 'email this').

Article attributes   Coders noted whether articles contained or linked to video, audio, slideshows, photographs, information graphics, graphics, maps and polls. An article could possess more than one of these elements. As mentioned earlier, visual stand-alone content was simply not coded in order to make the data more manageable; however, it was coded if the story carried a textual caption.

Coder reliability

To establish intercoder reliability, two graduate students coded 9 percent ($n = 91$) of the total sample. Riffe et al. (2005) suggest using Pearson's product-moment correlation coefficient to determine ratio level intercoder reliability. Intercoder reliability for ratio level variables ranged from .92 to 1.0.

To determine intercoder reliability for nominal level variables, Scott's pi computation was selected for nominal level variables because it corrects for chance agreement. The reliability for the story topic variable was .91.

Results

The final sample included 480 online newspaper and 482 online citizen journalism arti-cles. More than half (55%) of the online citizen journalism articles were blog posts, while 5 percent of the online newspaper articles analyzed were blog posts.

Content diversity

Topic use and diversity   Online newspapers focused on government (21.5%), busi-ness/economy (16.3%), crime (14.2%) and entertainment (8.8%), while citizen journal-ism sites concentrated more of their coverage on government (27.2%), entertainment (16.2%) and business/economy (10.0%) topics. Difference in proportions tests show online citizen journalism and online newspapers significantly differed in how much they covered entertainment, crime and business topics ($p < .01$), but were proportionately similar in the amount of coverage focused on government (see Table 1).

RQ1a addressed the diversity of primary topics featured in articles. Simpson's D was computed to measure publication diversity (Simpson, 1949). Simpson's D is calculated by summing the squared proportions and subtracting the sum from 1. It is considered an

Table 1 Topic distribution in online newspaper and online citizen journalism articles

	Online newspaper	Online citizen journalism
Primary topic	$n = 480$	$n = 482$
Government	22%	27%
Business/economy*	16%	10%
Crime*	14%	4%
Entertainment*	9%	16%

* $p < .01$, difference in proportions tests.

optimal measure for diversity due to its interpretative capability (McDonald and Dimmick, 2003). The measure for diversity ranges from 0 to 1. A higher number denotes a greater level of diversity. Online newspapers had a diversity level of .839 with 480 articles and online citizen journalism publications had a diversity level of .869 with 482 articles. Thus, online citizen journalism publication topics were slightly more evenly distributed than online newspapers.

Hyperlink use   Online citizen journalism articles (1.5) averaged significantly more hyperlinks per article compared to online newspaper articles (.75). RQ1b addressed the willingness of information sites to link to content not created by their operation. According to independent *t*-tests, online newspapers (.19) were significantly less likely to link to outside content than were online citizen journalists (1.1). Instead, online newspaper journalists (.57) were more likely to attempt to keep users at their sites with the use of within-site links than citizen journalists (.38).

This research also analyzed the extent to which articles featured hyperlinks to material produced by outside traditional news media sources and blogs. Citizen journalism articles were more likely to feature links to outside traditional media sources (.20) and outside blog content (.09). In the online newspaper sample, journalists did not link to outside blog content and rarely linked to outside traditional news media sources (.01) (see Table 2).

Article attributes   RQ1c asked whether online newspaper and online citizen journalists differed in their use of article attributes. Online citizen journalists were significantly more likely to use more photos (.54), graphics (.06) and polls (.02) in their articles based

Table 2 Average use of hyperlinks in online newspapers and online citizen journalism articles

Hyperlink types	Online newspapers	Online citizen journalism
Total	.75	1.5
Outbound	.19	1.06
Within	.57	.38
Outbound traditional media	.01	.20
Outbound blog	.00	.09

$p < .05$, independent *t*-tests for difference in means.

on the results of independent *t*-tests ($p < .05$). Online newspaper journalists were more likely to include slideshows (.03), while citizen journalists did not incorporate one slideshow within the sample (see Table 3).

Discussion

Diversity of content was assessed by analyzing the diversity of topics, the inclusion of outbound links and the inclusion of multimedia and interactive elements. Online citizen journalists featured a greater diversity of topics, multimedia/interactive elements and outbound links. Thus, online citizen journalists offer a greater diversity of content for news users than online newspapers based on the results of this study.

Primary story topic

The diversity of each publication type was measured by analyzing which news outlet provided a greater balance, or diversity, of topics for citizens. The results reflect that online citizen journalism content is slightly more diverse than online newspaper content. Online newspapers cover more state and national-level issues, which may limit the topics that can be covered (Project for Excellence in Journalism, 2006).

The press has historically informed the public of government leaders' decisions, including whether officials are fulfilling their obligations to the public. Research has shown newspaper reading is related to political engagement, community knowledge, social trust and community participation (McLeod et al., 1996; Moy et al., 2004; Paek et al., 2005; Poindexter and McCombs, 2001; Shah et al., 2001). The results show that both information publication types value public affairs news because they focused most of their efforts on covering government more than any other topic. Online citizen journalists (27%) were more likely to cover government topics than were online newspaper journalists (22%). Blogger survey research showed more than 92% of bloggers surveyed felt they have political power and a high degree of interest in news and politics, and access to the internet has made them more politically involved (Kaye, 2005). In the past, the press has informed people about leaders' decisions; however, today more individuals may be taking on the watchdog role to fulfill the informational needs of people at a

Table 3 The average number of article attributes

Attributes	Online newspapers	Online citizen journalism
Photo*	.33	.54
Slideshow*	.03	.00
Graphic*	.01	.06
Poll*	.00	.02
Video	.04	.03
Information graphic	.03	.01
Map	.02	.02
Audio	.01	.02

* $p < .05$, independent *t*-tests for difference in means.

hyperlocal and hyperpersonal level (Morton, 2009). This research demonstrates the democratic potential of online citizen journalists who use the web to cover a geographic area.

Entertainment was the second most covered topic by online citizen journalism publications, while it was fourth for online newspapers. Past research on smaller publications shows citizen journalists cover social events (Janowitz, 1952; Tichenor et al., 1980). It should be noted that entertainment included attending movies, museums or local events. Thus, future research should create a *culture* category to determine whether entertainment coverage tends to be more sensational or locational. Based on coder feedback, it is expected that online citizen journalism publications do not tend to cover a high proportion of national entertainment topics because their focus is local content.

Outbound hyperlinks

Diversity of information also comes in the form of access to information not produced by the host news outlet. Mark Granovetter's (1973) seminal piece on the strength of weak ties demonstrated the value of information received from people with weak ties or no direct contact. Richard Florida (2002) argued people prefer weak ties to community ties because it helps them advance their careers.

The use of within-site hyperlinks prevents news consumers from accessing information from varying viewpoints. News organizations should relinquish some control by attributing information to outside sources via hyperlinks. This inclusion of an outbound link would require the investment of a journalist's time to authenticate another site as a source. Outside links are another form of attribution offering users the opportunity to understand an issue on a deeper level. Newspapers may fear a hyperlink to an outside source means they are responsible for that content. However, journalists have historically been responsible for selecting credible sources to bolster their reports. The journalist's duty of identifying credible sources is important due to the abundance of available information on the world wide web.

Content analysis cannot reveal why online newspapers prefer to link to content within their site. Nevertheless, there may be some explanations that can shed light on why traditional news organizations are prone to link within their site rather than linking to outside information. For instance, news organizations may fear readers will not come back to their site, or they may discover a better alternative source of information. News organizations should strive to act as a portal to information to encourage people to use their site as a primary source for online information rather than a site that people visit or link to periodically for information. Another explanation behind within-site linking is that it requires more work from the journalist to find outside sources of information, thus the use of internal sources is less research intensive. Lastly, they may be legally responsible for the accuracy of outside content (Rubel, 2007).

Not every article may warrant the inclusion of hyperlinks. Hyperlinks should link to meaningful content. To better understand the motivation behind the use of hyperlinks, a chi-square was performed to determine what topics featured more links ($p < .01$). The analysis indicated that journalists were more likely to include links in articles that require more background information or topics that are considered softer. News media (68%), technology (57%), international (57%), human interest (43%) and entertainment (43%) were the topics most likely to feature one or more hyperlinks (see Table 4). The use of

Table 4 The use of hyperlinks associated with topic

Hyperlink presence	Topics								
	News media (n = 14)	Technology (n = 26)	International (n = 24)	Human interest (n = 88)	Entertainment (n = 234)	Science (n = 126)	Crime/ trial (n = 65)	Accident/ disaster (n = 120)	Iraq (n = 21)
Zero hyperlinks	32%	43%	43%	57%	58%	64%	76%	78%	79%
One or more hyperlinks	68%	57%	57%	43%	43%	36%	24%	22%	21%

Note: $\chi^2 = 36.676$, d.f. = 15, $p < .01$.

hyperlinks in softer articles can mean they are linking to information that is considered less controversial, which means that the authenticity of content will less likely be challenged. The topics featuring the fewest number of hyperlinks were ones that tend to lend themselves to straight reporting styles such as crime (24%) and accidents/disaster (22%).

Article attributes

The potential of the internet is immense as far as providing access to a diversity of information. People can select visual, aural or textual material that aids in the understanding of an issue (Deuze, 1999; Pavlik, 2001). Visual elements are considered indicators of quality, yet most news outlets did not include them in or adjacent to articles (Bogart, 1985; Gladney et al., 2007). Online citizen journalists included more photographs, graphics and polls, while online newspaper journalists used more slideshows in their articles. But the average use of such features, with the exception of photographs, was less than an average of .06 attributes per article for both publication types. The inclusion of this type of content may be minimal because some journalists are hesitant to learn new technology; some outlets cannot afford the software, the hardware or the money to train journalists; or multimedia elements are not included in text articles because they are placed in a separate section on the website (Russial, 2000; Singer, 1998, 2004). This trend not to include multimedia may change as Nielsen/NetRatings, a company that monitors internet audiences, has begun to measure the length of time visitors stay at a site (Jesdanun, 2007).

Conclusion

Research in the area of online journalism is challenging, especially at the article level. The analysis in this study has several limitations. For example, it was limited to online newspapers and online citizen journalism sites focused on a geographic area. It would be useful to make comparisons using content produced by online citizen journalists who write about specific issues, rather than a geographic area, or to examine how broadcast organizations differ compared to online citizen journalists to more fully understand the value of citizen journalism content to society. This analysis was also limited to sites in the USA and thus more research needs to be conducted to reflect differences beyond American borders. Analysis was limited to textual stories. In the future, research should examine all types of stories.

The world population is diverse, and thus it is important people have access to a diversity of content, a challenge put forth by the Hutchins Commission on Freedom of the Press (1947) to traditional news media several decades ago. In today's information economy, people need access to a diversity of information to be successful and to grow (Florida, 2002). Citizens are not ideal creatures consuming all of the information presented to them. However, some political communication researchers believe it is the press's responsibility to proactively seek and create content that engages and benefits 'all' citizens (Bennett, 1996, 2007; Entman, 2008; Patterson, 2003). There is a push to encourage newspapers to cater to elite audiences (Meyer, 2008); however, Entman and Herbst

(2001) argue democracy will be negatively affected if the press tailors information solely for elite or niche users because it will encourage citizens to be ignorant and divided. But what does it mean or what will the future look like if a publication does not exist to unite people of varying levels of knowledge? The number of traditional news media providers continues to decline (Project for Excellence in Journalism, 2009). Providing credible information is a necessary component of society; however, this information may not come from traditional news media sources. The traditional news media have theoretically focused on uniting the masses. But has their content truly reflected the masses, or has it reflected a much smaller segment of the population? Are they diverse in how they interpret issues, or do traditional journalists provide a routine lens when deciphering issues for the masses? Have traditional journalists really served and benefited their readers with their content? Or have they served sources or commercial interests? This research shows that this sample of online citizen journalists performed better at providing a diversity of information. The focus should not be on whether online citizen journalists are producing journalism, but rather a re-evaluation of newspapers' mission should take place before taking risks to see what sticks. Risks should be taken, but risks should reflect their goals as an information provider and educator.

Acknowledgments

References

American Society of Newspaper Editors (2002) 'Building Reader Trust', *Newspaper Credibility Handbook,* pp. 1–4. Reston, VA: American Society of Newspaper Editors, URL: http://asne.org

BBC News (2007) 'Deaths Rise as US Storm Spreads', 15 January, URL (consulted 14 August 2007): http://news.bbc.co.uk/2/hi/americas/6262533.stm

Bennett, W.L. (1996) 'An Introduction to Journalism Norms and Representations of Politics', *Political Communication* 13(4): 373–84.

Bennett, W.L. (2007) *News: The Politics of Illusion*, 7th edn. New York: Longman.

Blanchard, M.A. (1977) 'The Hutchins Commission: The Press and the Responsibility Concept', *Journalism Monographs* 49.

Bogart, L. (1985) 'How US Newspaper Content is Changing', *Journal of Communication* 35(2): 82–90.

Brown, F. (2005) ' "Citizen" Journalism is Not Professional Journalism', *Quill* 93(1 August): 42.

Bucy, E.P. (2004) 'Forum Vis-a-Vis: Where Interactivity Resides. Interactivity in Society: Locating an Elusive Concept', *The Information Society* 20(2): 373–83.

Carpenter, S. (2008) 'How Online Citizen Journalism Publications and Online Newspapers Utilize the Objectivity Standard and Rely on External Sources', *Journalism & Mass Communication Quarterly* 85(3): 533–50.

CNN.com. (2005) 'Poll: Most Americans Unfamiliar with Blogs', 3 March, URL (consulted 25 June 2007): http://www.cnn.com/2005/TECH/internet/03/03/poll.blogs/

Commission on Freedom of the Press (1947) *A Free and Responsible Press; A General Report on Mass Communication: Newspapers, Radio, Motion Pictures, Magazines, and Books.* Chicago, IL: The University of Chicago Press.

Demers, D.P. (1994) 'Effects of Organizational Size on Job Satisfaction of Top Editors at US Dailies', *Journalism Quarterly* 71(4): 914–25.

Deuze, M. (1999) 'Journalism and the Web: An Analysis of Skills and Standards in an Online Environment', *Gazette* 61(5): 373–90.

Dimitrova, D.V. and M. Neznanski (2006) 'Online Journalism and the War in Cyberspace: A Comparison between US and International Newspapers', *Journal of Computer-mediated Communication* 12(1): 248–63.

Dimitrova, D.V., C. Connolly-Ahern, A.P. Williams, L.L. Kaid and A. Reid (2003) 'Hyperlinking as Gatekeeping: Online Newspaper Coverage of the Execution of an American Terrorist', *Journalism Studies* 4(3): 401–14.

Donahue, G.A., P.J. Tichenor and C.N. Olien (1972) 'Gatekeeping: Mass Media Systems and Information Control', in G.F. Kline and P.J. Tichenor (eds) *Sage Annual Reviews of Communication Research: Vol. 1. Current Perspectives in Mass Communication Research,* pp. 41–69. Beverly Hills, CA: Sage.

Dube, J. (2007) 'Citizen Media Initiatives List', 20 March, URL (consulted 13 February 2007): http://www.cyberjournalist.net/news/002226.php

Duncan, C.T. (1952) 'How the Weekly Press Covers News of Local Government', *Journalism Quarterly* 29: 283–93.

Entman, R.M. (2008) 'Improving the Democratic Contributions and Economic Prospects of Traditional Journalism', paper presented at the Carnegie-Knight Conference on the Future of Journalism, Cambridge, MA, 20 June.

Entman, R.M. and S. Herbst (2001) 'Reframing Public Opinion as We Have Known It', in W.L. Bennett and R.M. Entman (eds) *Mediated Politics: Communication in the Future of Democracy*, pp. 203–25. New York: Cambridge University Press.

Eveland, W.P. (2003) 'A "Mix of Attributes" Approach to the Study of Media Effects and New Communication Technologies', *Journal of Communication* 53(3): 395–410.

Florida, R. (2002) *The Rise of the Creative Class: And How it's Transforming Work, Leisure, Community and Everyday Life*. Cambridge, MA: Basic Books.

Gade, P., S. Abel, H. Hseuh, J. Hume, J. Morris, A. Packard et al. (1998) 'Journalists' Attitudes toward Civic Journalism Media Roles', *Newspaper Research Journal* 19(4): 10–26.

Gans, H.J. (1992) 'Multiperspectival News', in E.D. Cohen (ed.) *Philosophical Issues in Journalism.* New York: Oxford University Press.

Gillmor, D. (2004) *We the Media: Grassroots Journalism by the People, for the People*. Sebastopol, CA: O'Reilly.

Gitlin, T. (2003) *The Whole World is Watching: Mass Media in the Making and Unmaking of the New Left.* Berkeley and Los Angeles: University of California Press.

Gladney, G.A. (1990) 'Newspaper Excellence: How Editors of Small and Large Papers Judge Quality', *Newspaper Research Journal* 11(2): 58–72.

Gladney, G.A., I. Shapiro and J. Castaldo (2007) 'Online Editors Rate Web News Quality Criteria', *Newspaper Research Journal* 28(1): 55–69.

Graber, D. (2001) 'Adapting Political News to the Needs of Twenty-first Century Americans', in W.L. Bennett and R.M. Entman (eds) *Mediated Politics: Communication in the Future of Democracy*, pp. 433–52. New York: Cambridge University Press.

Graber, D. (2003) 'The Rocky Road to New Paradigms: Modernizing the News and Citizenship Standards', *Political Communication* 20(2): 145–8.

Granovetter, M.S. (1973) 'The Strength of Weak Ties', *American Journal of Sociology* 78(6): 1360–80.

Greer, J.D. and D. Mensing (2006) 'The Evolution of Online Newspapers: A Longitudinal Content Analysis, 1997–2003', in X. Li (ed.) *Internet Newspapers: The Making of a Mainstream Medium,* pp. 13–32. Mahwah, NJ: Lawrence Erlbaum.

Ha, L. and E.L. James (1998) 'Interactivity Re-Examined: A Baseline Analysis of Early Business Web Sites', *Journal of Broadcasting & Electronic Media* 42(4): 457–74.

Hargrove, T. and G.H. Stempel III (2007) 'Use of Blogs as a Source of News Presents Little Threat to Mainline News Media', *Newspaper Research Journal* 28(1): 99–102.

Harp, D. and M. Tremayne (2006) 'The Gendered Blogosphere: Examining Inequality Using Network Theory and Feminist Theory', *Journalism & Mass Communication Quarterly* 83(2): 247–64.

Herring, S.C., L.A. Scheidt, S. Bonus and E. Wright (2005) 'Weblogs as a Bridging Genre', *Information, Technology & People* 18(2): 142–71.

Hiler, J. (2002) 'Blogosphere: The Emerging Media Ecosystem', *Microcontent News*, URL (consulted 12 October 2007): http://www.microcontentnews.com/articles/blogosphere.htm

Hindman, E.B. (1998) ' "Spectacles of the Poor": Conventions of Alternative News', *Journalism & Mass Communication Quarterly* 75(1): 177–93.

Janowitz, M. (1952) *The Community Press in an Urban Setting.* New York: Macmillan.

Jesdanun, A. (2007) 'Nielsen to Focus on Time Spent, Not Page Views, in Measuring Web Site Popularity', The Associated Press, 9 July, URL (consulted 15 August 2007): http://www.washingtonpost.com

Johnstone, J.W.C., E.J. Slawski and W.W. Bowman (1976) *The News People: A Sociological Portrait of American Journalists and Their Work.* Urbana: University of Illinois Press.

Kaye, B.K. (2005) 'It's a Blog, Blog, Blog, Blog World: Users and Uses of Weblogs', *Atlantic Journal of Communication* 13(2): 73–95.

Kessler, L. (1984) *The Dissident Press: Alternative Journalism in American History.* Newbury Park, CA: Sage.

Ketterer, S. (2001) 'Links Engage Readers of Crime Stories', *Newspaper Research Journal* 22(2): 2–13.

Kim, Y. and S.J. Ball-Rokeach (2006) 'Community Story Telling Network, Neighborhood Context, and Civic Engagement: A Multilevel Approach', *Human Communication Research* 32(4): 431–9.

Kurtz, H. (2002) 'How Weblogs Keep the Media Honest', *The Washington Post* 31 July, URL (consulted 6 April 2009): http://www.washingtonpost.com

Lacy, S. (1992) 'Ideas for Prospering in a Changing Market', *Newspaper Research Journal* 13(3): 85–94.

Lang, A. (2000) 'The Limited Capacity Model of Mediated Message Processing', *Journal of Communication* 50(1): 46–70.

Lee, J.K. (2007a) 'The Effect of the Internet on Homogeneity of the Media Agenda: A Test of the Fragmentation Thesis', *Journalism & Mass Communication Quarterly* 84(4): 745–60.

Lee, Y. (2007b) 'Effects of Market Competition on Taiwan Newspaper Diversity', *Journal of Media Economics* 20(2): 139–56.

Li, X. (1998) 'Web Page Design and Graphic Use of Three US Newspapers', *Journalism & Mass Communication Quarterly* 75(2): 353–65.

McDonald, D.G. and J. Dimmick (2003) 'The Conceptualization and Measurement of Diversity', *Communication Research* 30(1): 60–77.

McLeod, J.M., K. Daily, Z. Guo, W.P. Eveland Jr, J. Bayer, S. Yang and H. Wang (1996) 'Community Integration, Local Media Use, and Democratic Processes', *Communication Research* 23(April): 179–209.

Massey, B.L. (2004) 'Examination of 28 Web Newspapers Shows Nonlinear Storytelling Rare', *Newspaper Research Journal* 25(3): 96–102.

Mendelson, A.L. and E. Thorson (2004) 'How Verbalizers and Visualizers Process the Newspaper Environment', *Journal of Communication* 54(3): 474–91.

Merritt, D. and M. McCombs (2004) *The Two W's of Journalism. The Why and What of Public Affairs Reporting.* Mahwah, NJ: Lawrence Erlbaum.

Meyer, P. (2008) 'The Elite Newspaper of the Future', *American Journalism Review* October/ November, URL (consulted 15 May 2009): http://ajr.org/Article.asp?id=4605

Morton, J. (2009) 'Citizen Journalists Keep Eye on Government', 16 March, URL (consulted 9 April 2009): http://www.tuscaloosanews.com/apps/pbcs.dll/article

Moy, P., M.R. McCluskey, K. McCoy and M.A. Spratt (2004) 'Political Correlates of Local News Media Use', *Journal of Communication* 54(September): 532–46.

Online News Association and Project for Excellence in Journalism (2009) 'Online Journalists Optimistic about Revenue and Technology, Concerned about Changing Values', URL (consulted 2 April 2009): http://journalists.org/news/24401/Survey-results-Online-journalists-optimistic-about-potential-in-revenue-technology.htm

Paek, H., S. Yoon and D.V. Shah (2005) 'Local News, Social Integration, and Community Participation: Hierarchal Linear Modeling of Contextual and Cross-level Effects', *Journalism & Mass Communication Quarterly* 82(3): 587–606.

Patterson, T.E. (2003) 'The Search for a Standard: Markets and Media', *Political Communication* 20(2): 139–44.

Pavlik, J.V. (2001) *Journalism and New Media*. New York: Columbia University Press.

Pease, T. (1990) 'Ducking the Diversity Issue', *Newspaper Research Journal* 11(3): 24–37.

Pew Center for Civic Journalism (2001) 'Journalism Interactive', URL (consulted 7 January 2007): http://www.pewcenter.org/doingcj/research/r_interact.html

Pew Internet and Life Project (2008) 'New Numbers for Blogging and Blog Readership', 22 July, URL (consulted 9 April 2009): http://www.pewinternet.org/Commentary/2008/July/New-numbers-for-blogging-and-blog-readership.aspx

Plaisance, P.L. (2005) 'The Mass Media as Discursive Network: Building on Implications of Libertarian and Communitarian Claims for News Media Ethics Theory', *Communication Theory* 15(3): 292–313.

Poindexter, P.M. and M.E. McCombs (2001) 'Revisiting the Civic Duty to Keep Informed in the New Media Environment', *Journalism & Mass Communication Quarterly* 78(1): 113–26.

Porto, M.P. (2007) 'Frame Diversity and Citizen Competence: Towards a Critical Approach to News Quality', *Critical Studies in Media Communication* 24(4): 303–21.

Project for Excellence in Journalism (1999) 'What Works, What Flops, and Why: What is a "Good" Newscast. Local TV News Project 1998', 1 March, URL (consulted 15 March 2007): http://www.journalism.org/node/377

Project for Excellence in Journalism (2005) 'The State of the News Media 2005', URL (consulted 13 March 2007): http://www.stateofthenewsmedia.com/2005/

Project for Excellence in Journalism (2006) 'The State of the News Media 2006', URL (consulted 13 March 2007): http://www.stateofthenewsmedia.com/2006/

Project for Excellence in Journalism (2007) 'The State of the News Media 2007', URL (consulted 13 March 2007): http://www.stateofthenewsmedia.com/2007/

Project for Excellence in Journalism (2008) 'The State of the News Media 2008', URL (consulted 2 April 2009): http://www.stateofthenewsmedia.org/2008 /narrative_online_newsinvestment. php?cat=5&media=5

Project for Excellence in Journalism (2009) 'The State of the News Media 2009', URL (consulted 15 May 2009): http://www.stateofthenewsmedia.com/2009/

Reader, B. (2006) 'Distinctions that Matter: Ethical Differences at Large and Small Newspapers', *Journalism & Mass Communication Quarterly* 83(4): 851–64.

Riffe, D., S. Lacy and F. Fico (2005) *Analyzing Media Messages: Using Quantitative Content Analysis in Research.* Mahwah, NJ: Lawrence Erlbaum.

Rosen, J. (2006) 'The Best Blogging Newspapers in the US', 1 March, URL (consulted 15 August 2007): http://journalism.nyu.edu/pubzone/blueplate/issue1/best_nwsps/

Rosenberg, S. (2002) 'Much Ado About Blogging', 5 October, URL (consulted 9 April 2009): http://www.salon.com/tehc/col/rose/2002/05/10/blogs

Rubel, S. (2007) 'Google News Now Has Feedback, Editing, and More Risk', 8 August, URL (consulted 10 August 2007): http://www.micropersuasion.com/2007/08/google-news-now.html

Russial, J. (2000) 'How Digital Imaging Changes Work of Photojournalists', *Newspaper Research Journal* 21(2): 67–84.

Schaffer, J. (2007) 'Citizen Media: Fad or the Future of News?', Institute for Interactive Journalism, February (consulted 28 February 2007): http://www.kcnn.org/research/citizen_media_report/

Shah, D.V., J.M. McLeod and S. Yoon (2001) 'Communication, Context, and Community: An Exploration of Print, Broadcast, and Internet Influences', *Communication Research* 4(August): 464–506.

Shaw, D.L. (1967) 'News Bias and the Telegraph: A Study of Historical Change', *Journalism Quarterly* 44(1): 3–12, 31.

Shim, H. (2006) 'The Professional Role of Journalism in US Press Reportage from 1950 to 2000', doctoral dissertation, University of Texas at Austin, URL (consulted 28 February 2007): http://hdl.handle.net/2152/532

Shoemaker, P.S. (1984) 'Media Treatment of Deviant Political Groups', *Journalism Quarterly* 61(1): 66–75, 82.

Shoemaker, P.S. and A.A. Cohen (2006) 'What's News? Theory Revised', in P. Shoemaker and A.A. Cohen (eds) *News Around the World*, pp. 335–54. New York: Taylor and Francis.

Shoemaker, P.S. and S. Reese (1996) *Mediating the Message: Theories of Influences on Mass Media Content*, 2nd edn. White Plains, NY: Longman.

Siebert, F.S., T. Peterson and W. Schramm (1956) *Four Theories of the Press.* Urbana: University of Illinois Press.

Simpson, E.H. (1949) 'Measurement of Diversity', *Nature* 163: 688.

Singer, J.B. (1998) 'Online Journalists: Foundations for Research into Their Changing Roles', *Journal of Computer-mediated Communication* 4(1), URL (consulted 20 January 2007): http://jcmc.indiana.edu/vol4/issue1/singer.html

Singer, J. (2004) 'More than Ink-stained Wretches: The Resocialization of Print Journalist in Converged Newsrooms', *Journalism & Mass Communication Quarterly* 81(4): 838–57.

Tichenor, P.J., G.A. Donahue and C.N. Olien (1980) *Community Conflict and the Press.* Beverly Hills, CA: Sage.

Tilly, C. (1978) *From Mobilization to Revolution.* Reading, MA: Addison-Wesley.

Tremayne, M. (2004) 'The Web of Context: Applying Network Theory to the Use of Hyperlinks in Journalism on the Web', *Journalism & Mass Communication Quarterly* 81(2): 237–53.

Tremayne, M., A.S. Weiss and R.A. Alves (2008) 'From Product to Service: The Diffusion of Dynamic Content in Online Newspapers', *Journalism & Mass Communication Quarterly* 84(4): 825–39.

Voakes, P.S., J. Kapfer, D.D. Kurpius and D.S. Chern (1996) 'Diversity in the News: A Conceptual and Methodological Framework', *Journalism & Mass Communication Quarterly* 73(3): 582–93.

Walther, J.B., G. Gay and J.T. Hancock (2005) 'How Do Communication and Technology Research Study the Internet?', *Journal of Communication* 55(3): 632–57.

Ward, J. and C. Gaziano (1976) 'A New Variety of Urban Press: Neighborhood Public-affairs Publications', *Journalism Quarterly* 53(1): 61–7, 116.

Weaver, D.H., R.A. Beam, B.J. Brownlee, P.S. Voakes and G.C. Wilhoit (2007) *The American Journalist in the 21st Century: US News People at the Dawn of a New Millennium.* Mahwah, NJ: Lawrence Erlbaum.

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