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Interactivity on Traditional Media Web Sites

Michelle Seelig

This study compares the radio industry’s use of interactivity to that of other traditional media on the Web such as newspapers and television stations, along the dimensions of audience-oriented interactivity and source-oriented interactivity. A content analysis of 112 traditional radio station Web sites, 282 traditional newspaper Web sites, and 128 traditional television station Web sites found that traditional radio station Web sites provided more audience-oriented interactivity compared to other traditional media Web sites, and traditional newspaper Web sites offered the most source-oriented interactivity. A general conclusion of this study is that although traditional radio stations were more likely to transmit live and archived sound than other media, all traditional media Web sites have held back from developing interactivity beyond e-mail, and have limited the transmission of streaming media, as well as archived audio and video content.

Introduction

The Internet diffused beyond the sciences and academic communities to the mainstream public beginning in the mid 1990s (Abbate, 1999). According to the Pew Internet & American Life Project [Pew] (2006b), Internet use in the U.S. grew from about 10% in 1995 to approximately 73% in April of 2006. The number of traditional media Web sites expanded to mirror the growth of home broadband adoption (Pew, 2006a). Since the diffusion of the Internet in 1994, all traditional media’s presence on the Web has grown. Using the Wayback Machine\textsuperscript{1} to access American Journalism Review’s (AJR) list of traditional media Web sites from 1997, radio stations increased from approximately 214 online in 1997 to 3,700 in 2006; there were approximately 325 daily newspapers online in 1997 compared to more than 1,231 in 2006; and television stations spread from approximately 215 online in 1997 to approximately 750 in 2006.\textsuperscript{2}
While traditional media have made an effort to establish a presence on the Web, both radio and television stations are playing it safe in their venture online by repurposing or simply extending content from their traditional counterpart. Yet, it was expected that, over time, both radio and television stations would have carved out a niche on the Web by providing content and features to Internet savvy audiences beyond what traditional media outlets provide to consumers. Research demonstrates that newspapers, more than radio and television stations, have been experimenting with the content and features on their Web sites (Bates, Chambers, Emery, Jones, McClung & Park, 1997; Chan-Olmsted & Park, 2000; Greer & Mensing, 2004; Kiernan & Levy, 1999; Li, 1998; Lin & Jeffres, 2001; Lind & Medoff, 1999; Lowrey, 1999; Massey & Levy, 1999; Peng, Tham & Xiaoming, 1999; Pitts, 2003; Pitts & Harms, 2003; Potter, 2002).

Initial research suggested that interactivity was a key appeal of media Web sites, however traditional media have not fully capitalized on transmitting live media or archived sound and video, and have not provided many interactive mechanisms beyond e-mail (Bates et al., 1997; Chan-Olmsted & Park, 2000; Chyi & Lasorsa, 1999; 2002; Greer & Mensing, 2004; Lin & Jeffres, 2001; Pitts & Harms, 2003; Potter, 2002; Ren & Chan-Olmsted, 2004). Previous research examined the differences in traditional vs. online versions of media content (Chyi & Lasorsa, 2002; Choi, 2004; Jung, 2003; Lin & Jeffres, 2001; Ren & Chan-Olmsted, 2004), along with the content and interactive features used on media Web sites (Chan-Olmsted & Park, 2000; Choi, 2004; Greer & Mensing, 2004; Kiernan & Levy, 1999; Li, 1998; Lin & Jeffres, 2001; Lind & Medoff, 1999; Lowrey, 1999; Massey, 2004; Massey & Levy, 1999; Peng, Tham, & Xiaoming, 1999; Pitts, 2003; Pitts & Harms, 2003; Randle & Mordock, 2002; Ren & Chan-Olmsted, 2004; Tewksbury, 2005; Thompson & Wassmuth, 2001). The majority of the aforementioned research found that while traditional media Web sites’ overall design and navigation improved over the years, there were modest improvements in content audiences want. Generally, traditional media Web sites have not fully developed their streaming capabilities nor provided much interactivity with their respective communities.

According to Hendy (2000) the American radio industry is adopting both digital production and Internet radio. Further, Evans and Smethers (2001) said, “Existing media companies have traditionally been in the best position to invest in the development of novel technologies. This advantage has customarily resulted in a pattern where the content and business operations of newer media forms mostly reflect those of the ancestral technology, much as early-day television operations and programming were a direct reflection of the established radio medium” (p. 6). Hence, it is not surprising that “the resulting Internet-delivered stations operate much as their over-air counterparts and largely reflect traditional radio content” (p. 6).

The present study is an updated look at the interactive mechanisms as well as streaming and archived sound and video available on traditional media Web sites. Specifically, the current study compares radio’s use of interactivity to other traditional media such as newspapers and television along the dimensions of audience-
oriented interactivity and source-oriented interactivity. This study also explores whether radio station Web sites offer more streaming media and archived sound and video compared to other traditional media Web sites.

Background

Lind and Medoff (1999) conducted in-depth interviews and surveys of Web radio broadcasters, along with a content analysis of radio station Web sites. Data collected revealed several reasons for radio stations’ presence on the Web. According to Lind and Medoff, some of these reasons include: to facilitate audience interaction with station talent; broaden coverage area; create an image of being “hip” or on the cutting edge; increase sales opportunities; because other stations are doing it; and, because audiences or corporate/management asked for a Web site. Despite the benefits of having a Web site, broadcasters also reported problems including the time required and difficulty in updating Web sites’ content; technical problems with hardware, software, or server; licensing issues and no clear revenue stream; poor sound quality; no demand, nor no added value to the consumer; and lack of knowledge by the station personnel to support a Web site.

Lochte (2000) examined trends in invention and innovation regarding radio technology. When it comes to adopting either a new invention or innovation, history documents that radio companies are motivated by three factors: profits, the social system, and cultural forces. As with past inventions and innovations with radio technology, the diffusion of over-the-air broadcast radios’ presence on the Web might be delayed sociologically due to failure of decision-makers to understand the practical application of the Web as an outlet to reach new audiences and to provide content and information beyond traditional content. It is also possible that radio stations’ ventures to the Web have been slow given the lack of organizational support as well as others in the radio industry’s lack of interest in the Web. Thus, it is also plausible that while radio stations have gradually increased their presence on the Web, they have been slow to adopt or fully capitalize on the Web because the decision-makers in the radio industry have yet to see the economic benefits of a Web site.

Although many in the industry have realized there are opportunities to a presence on the Web (Braiker, 2000; Kaneb, 2000; Kennedy, 2000), David E. Kennedy, President/COO, Susquehanna Radio Corp. (2000), said that radio stations have been reluctant to pursue the Web wholeheartedly because of the potential threat to their business. In the beginning, many viewed the Web as a promotional tool, while others used their Web sites as a way to expand programming, and to a lesser extent radio stations added interactive and multimedia capabilities beyond those limited by traditional radio. However, when it comes to streaming media, Kennedy said that “as streaming technology improves and high-speed bandwidth becomes more readily available and assessible,” more radio station Web sites will provide unique content via streaming media. Michael A. Kaneb, President/COO, Barnstable
Broadcasting, Inc. (2000) said that due to limited resources, budget, and personnel, their venture on the Web is limited and they have outsourced streaming audio to an outside streaming media vendor. Similarly, Ivan Braiker, President, New Northwest Broadcasters (2000) reported that most of their stations use the Web to maximize station influence and profits, but still are wary when it comes to streaming audio. Instead, they have been focusing “on fulfilling the needs of the retail advertiser, developing a prominent community voice, and expanding the client base of our advertisers” (p. 2), as well as utilizing Web sites as portals to markets so as to “provide local businesses with access to the vast marketplace that the Internet provides” (p. 3).

According to Levi (2001), the slow rate of adoption had more to do with the fact that “streaming audio services, or Webcasting, has yet to prove itself as profitable and because the large debts incurred in consolidation efforts limit large groups from spending on untested businesses” (p. 1). Similar to comments made by prior industry experts (Braiker, 2000; Kaneb, 2000; Kennedy, 2000; Lind & Medoff, 1999; Lochte, 2000), Levi had also expected that Webcasting and/or streaming radio would have penetrated more mainstream media Web sites with the diffusion of broadband access; and, that radio stations would offer unique programming such as an entirely new or sub format beyond that offered on terrestrial radio. For example, a listener of terrestrial radio may choose to listen to the adult contemporary station, however on the Internet, the listener may have the option of not only choosing adult contemporary, but adult contemporary that “leans toward more ballads and therefore, a younger demographic” (p. 2).

Although terrestrial radio has steadily adopted streaming audio, listeners have not adopted the technology at the same rate. From 1999 to 2001 (Levi, 2001; Lind & Medoff, 1999), research found several reasons for slow user adoption such as less than adequate bandwidth, poor sound quality, inconvenience of Webcasting, lack of information, incompatible computer platform or related technology, and lack of mobility as most people listen to the radio in their cars. As recently as 2007 a study by Arbitron and Edison Media Research (Rose & Lensiki, 2007) found that while awareness of online radio steadily increased over the years listeners were not tuning in, instead, they were turning more to mobile devices such as iPod/Portable MP3 players, cell phones and traditional over-the-air radio than listening to online radio, reinforcing Levi’s proposition that Webcasting is just another element of the media mix for consumers to choose.

Previous research found advertisers slow to show interest because of low Web site use (Levi, 2001). However, Levi (2001) suggested that as bandwidth increases along with improvements in technology and less expensive wireless systems, more listeners will tune in. According to Levi, streaming audio is not just about the technology, it is also about people within radio organizations making sense of the technology so that it fits within a business model that is open to change and uncertainty as more technologies become available. After all, the choices and targeting options on the Internet are different from traditional radio, so how users listen to radio is also different.
McClung (2001) conducted an online survey of users of college radio station Web sites and found users tuned-in mostly for their entertainment value, such as to hear what is on the air over the Internet or Webcasting, and to listen to audio files. For example, many college radio station Web sites put samples of new music or a featured artist on their Web site and many respondents indicated that this was an appealing interactive feature. Data also indicated that users sought out these Web sites for their social integration function to strengthen contact with college, such as parents and alumni checking to see what is happening on campus. Likewise, Moody, Greer, and Linn’s (2003) survey of users of public radio station Web sites found two distinct users of their Web sites: users who listen to live radio broadcasts online and users seeking specific information such as programming, station and community news, as well as schedule features.

McClung and Lloyd (2003), and McClung, Mims, and Hong (2003) surveyed college radio station general managers’ attitudes toward streaming. Both surveys reported that a majority of college radio stations provided streaming content on the Internet. However, many managers indicated that the legal issues concerning licensing and streaming audio are a concern. Despite the costs and legal issues, the majority of managers reported that streaming is a valuable option that they will continue to pursue; especially as a way to reach alumni that mostly likely cannot pick up the broadcast signal. Respondents also reported that they valued their Web sites as a form of promotion, entertainment and social integration. Overall, both studies of college radio station Web sites revealed a somewhat different picture from that of commercial radio stations’ presence on the Web. Regardless of the legal ambiguity surrounded licensing issues, McClung et al., speculated at that time that college radio stations will continue to stream audio more than commercial radio stations because they see themselves as an outlet for up and coming artists, so streaming may be another way to carry out this mission to their audiences.

Contrary to opinions expressed by managers of college radio stations, surveys of general managers at both commercial and noncommercial radio stations revealed that their Web sites have not moved beyond content found in their terrestrial signals. Specifically, Greer and Phipps (2003), in their survey of managers at noncommercial religious radio stations, reported having Web sites to keep up with technology and because other radio stations have Web sites. Managers also said that their Web sites are both an informational tool for listeners and a promotional tool for the radio station. A majority of managers however, indicated that their Web sites lacked interactivity and few were streaming content, though future plans included redesigning Web sites to increase interactivity, as well as make available more dynamic content unlike their traditional media counterpart. Overall, managers perceived the benefit of the Web to be increased communication with their audience, but keeping the site updated was a major challenge. Papper’s (2003) survey of news directors and general managers at television and radio stations found that television stations were more likely than radio stations to include news-related content on their Web sites (88.4% and 41.7% respectively). Papper also found that television stations provided slightly more archived audio (35.2%) and video (27.2%) compared to radio station
In 2001, Evans and Smethers conducted a Delphi study of 50 radio industry experts concerning radio stations’ presence on the Web and their use of streaming radio. From the data collected, the top three themes that emerged were: content is crucial for success, create a community of listeners by offering specialized programming and interests, and a Web site is a great promotional tool to the traditional counterpart. Despite this forward thinking by industry experts, previous Web analyses revealed that these unique features and dynamic content are penetrating radio station Web sites at a slower pace than newspaper Web sites (Chan-Olmsted & Park, 2000; Greer & Mensing, 2004; Lin & Jeffres, 2001; Pitts & Harms, 2003; Potter, 2002).

Chan-Olmsted and Park (2000) examined 300 TV station Web sites for content and structure. They found local stations’ strength was their commitment to news and programming; and these Web sites typically provided text-oriented headline news and programming information. Just fewer than half the stations provided information relevant to the community such as local job listings and yellow pages. They also found local television stations Web sites were limited in communication (e.g., chat rooms and online forum) and transactional structures (e.g., shopping opportunities and online order processing); and made little use of entertainment and social opportunities. Overall, they found local television stations were not taking advantage of the opportunity to reach an audience beyond their traditional television counterpart, nor were they providing features such as marketing capabilities, local information, e-commerce, communication mechanisms, consumer services, or data collection systems.

Similar to Chan-Olmsted and Park (2000), Lin and Jeffres (2001) found radio station Web sites mostly provided text-only content, and limited dynamic content such as audio, video and other multimedia products. Pitts and Harms (2003) analysis of radio Web sites revealed that while the Web provides the opportunity for users to interact with virtually anyone, most radio station Web sites limited interactivity and this was mostly email and station phone numbers posted on Web sites, few live chats or forums, or the opportunity to engage in conversation with on-air personalities. Mostly, Pitts and Harms found that radio station Web sites promoted their disc jockeys more than anything else on their Web sites including pictures of DJs and their general information. Some radio stations used their Web sites to promote on-air contest promotions and concerts of musical artists. Generally, content and information included program logs and information about a radio station’s work with community projects. Potter’s (2002) content analysis of FM radio station homepages found that radio stations generally provided three types of content: contact information, station-sponsored events, and information relating to station announcers. Like other Web analyses, Potter found that FM station Web sites lacked streaming audio, and a majority of these Web sites rarely provided community or city information. Mostly, Potter said these radio stations used their Web sites as a promotional tool to extend and strengthen their brand image.
In contrast to radio station Web sites, Greer and Mensing (2004) found an upward trend of content and interactive technologies included on newspaper Web sites, as well as the presence of interactive features such as email, postings of reader responses, and customizable news. Greer and Mensing examined revenue sources available on these Web sites and found that in addition to advertising (i.e., classified ads, real estate ads) other revenue sources tapped included archive charges, registration, subscription, and Internet access. In sum, Greer and Mensing found that from 1997 to 2003, online newspapers were starting to offer more content, multimedia, interactivity, and revenue sources on their Web sites. This trend is mirrored in Huang’s (2007) recent analysis of newspaper and television station Web sites. Huang found that rich media adoption started to trickle down from top media markets to lower markets. Mostly though, newspaper Web sites have not looked beyond traditional print to other rich media formats to present content.

Also in 2004, Ren and Chan-Olmsted found Internet-based radio created a stronger presence for interactive communication such as chat rooms and forum/bulletins than terrestrial radio station Web sites. Findings also revealed that Internet-based radio stations offered more alternative radio formats than terrestrial radio. Terrestrial radio stations however, provided more information about a station, its staff, and the local community, included product-related news, program schedules and information, and advertised contests/sweepstakes and station activities. Internet-based radio stations typically provided product reviews, regulatory information, playlists, and pushed referral links. Distribution also differed between both radio groups. Terrestrial radio supplied more audio/download streaming and Internet-based radio supplied more software download/links. Ren and Chan-Olmsted suggest that because Internet-based radio stations are devoted to an online presence they are more likely to brand, communicate and generate income through innovative and interactive features not typically found on terrestrial radio Web sites, whereas terrestrial radio appeared to be using the Web as an extension of what they already do on-air.

Using Ha and James’ (1998) dimensions of audience-oriented interactivity and source-oriented interactivity, Ren and Chan-Olmsted (2004) compared interactivity on Internet-based radio stations and terrestrial radio station Web sites. They found Internet-based radio Web sites provided more source-oriented interactivity and terrestrial radio station Web sites provided more audience-oriented interactivity. According to Ha and Lincoln, audience-oriented interactivity comprises the engagement of the audience with the content presented on the Web site such as news content, sport content, or weather; the Web site provides the audience with the content to meet individual needs and entices users to source-oriented interactivity. Source-oriented interactivity is the two-way communication process that is hosted by the Web site such as customizing member profiles to have news sent directly to email, chatrooms, or games.

Ha and James’ (1998) analysis of interactivity on business Web sites included the measurement of interactivity classified by playfulness, choice, connectedness, information collection, and reciprocal communication. Ha and Lincoln further cod-
ified interactivity into audience-oriented interactivity and source-oriented interactivity. Reciprocal communication, a type of source-oriented interactivity was the most prevalent on business Web sites, and choice was the most dominant type of audience-oriented interactivity. Reciprocal communication consisted of two-way communication between company and user. E-mail was the typical form of reciprocal communication provided on these Web sites, followed by a toll-free phone number; other communication included order mechanisms, surveys, and some form of a chat device. Choice on business Web sites was defined by the company and included the options or information the company provided on the homepage for the user to interact with such as content preference presented by the company.

**Research Questions**

Ha and James’ (1998) suggest that not all the dimensions of interactivity identified in their research will apply to traditional media Web sites. Adapting Ha and Lincoln’s interactive criteria of audience-oriented interactivity and source-oriented interactivity is useful and provides a framework to extend Ren and Chan-Olmsted’s (2004) study of radio Web sites to provide an updated look at interactivity on traditional media Web sites.

RQ1: As a whole, which dimension of interactivity (audience-oriented and source-oriented) is more prevalent on traditional media Web sites?

RQ2: Do traditional radio station Web sites provide more or less interactivity than traditional newspaper Web sites and traditional television station Web sites?

RQ3: What types of two-way interactive communication aside from e-mail are traditional radio stations, traditional newspapers, and traditional television stations providing on their Web sites?

RQ4: To what extent are traditional radio station Web sites taking advantage of the emerging systems for transmitting live and archived sound and video, compared to traditional newspaper Web sites and traditional television station Web sites?

**Method**

A content analysis of traditional media Web sites in the United States was conducted between the summer and fall 2005. The unit of analysis was the homepage of traditional media Web sites because the homepage is viewed as the main entry to a Web site (Ha & James’, 1998; Nielsen, 2000; Randle & Mordock, 2002). The sample was generated from American Journalism Review’s (AJR) Web site (http://www.ajr.org), which provides a comprehensive list of U.S.-based traditional media Web sites and news/wire services Web sites. Based on procedures adapted
from previous research (Lind & Medoff, 1999; Pitts, 2003; Ren & Chan-Olmsted, 2004), approximately 25% of each sample unit was systematically selected using skip interval sampling with a random start from within each of AJR’s media groupings: newspapers (i.e., national newspapers, daily newspapers), television network affiliation (i.e., ABC, CBS), and radio station format (i.e., news/talk, sports).

Overall, 112 local news/talk and sports radio station Web sites, 282 national and daily newspapers, and 128 local television station Web sites were selected into the sample. Both the television and radio samples were selected from commercial, over-the-air U.S. stations, excluding noncommercial and Internet-only radio or television station Web sites and no distinction was made to select radio stations based on AM or FM frequency based on a practice used by Lind and Medoff (1999).

As McMillan (2000) points out content on the Web changes quickly, so collection of data occurred quickly. Similar to practices adapted from Chan-Olmsted and Park (2000) and Choi (2004), all Web sites selected into the sample were captured and saved on DVDs from late summer 2005 to early fall 2005. By capturing Web sites, two trained graduate students coded only archived content ensuring that they did not go to live pages that may have been updated with content and features since the time of capture. A check of intercoder reliability was conducted on approximately 10% of the sample—a procedure adapted from previous research (Greer & Mensing, 2004; Kiernan & Levy, 1999; Lin & Jeffres, 2001; Pitts, 2003; Randle & Mordock, 2002; Ren & Chan-Olmsted, 2004). Intercoder reliability using Scott’s Pi formula yields .81 for all coded variables, reliability coefficients ranged from .62 to 1.0.

Drawing on the literature (Ha & James’, 1998; Ren & Chan-Olmsted, 2004), all content on homepages was coded to capture audience-oriented interactivity (see Table 1) and source-oriented interactivity (see Table 2).

Results

The sample generated appears to represent a wide range of traditional radio and television stations’ markets and affiliations, and roughly corresponds to the circulation size of traditional national and daily newspapers. Results indicate that based on Greer and Mensing’s (2004) classification of newspaper size, the 282 traditional newspaper Web sites selected into the sample unevenly ranged in circulation size. The majority of traditional newspaper Web sites (85.1%) were small (under 100,000), 7.4% were mid-sized papers (100,000 to 300,000); and 3.5% were large papers (over 300,000). In terms of commercial network affiliation, of the 128 traditional television station Web sites selected into the sample, 23.6% were affiliated with ABC, 30.7% were affiliated with CBS, 18.9% were affiliated with NBC, 17.3% were affiliated with FOX, 4.7% were affiliated with UPN, and 4.7% were affiliated with WB. Market sizes for traditional television station Web sites consisted of: 1–25 (24.6%), 26–50 (15.9%), 51–75 (14.3%), 76–100 (8.7%), 101–125 (14.3%), 126–150 (7.9%), 151–175 (6.3%), 176–200 (6.3%), and 201+ (1.6%). Of the 112 traditional radio station Web sites, 82.4% were news/talk and 17.6%
<table>
<thead>
<tr>
<th>Audience-Oriented Interactivity</th>
<th>Newspaper</th>
<th></th>
<th>Television</th>
<th></th>
<th></th>
<th>Radio</th>
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<th></th>
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<td>Freq</td>
<td>Percent</td>
<td>Freq</td>
<td>Percent</td>
<td>Freq</td>
<td>Percent</td>
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<td>Percent</td>
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<td>99</td>
<td>77.3</td>
<td>47</td>
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<td>79</td>
<td>61.7</td>
<td>40</td>
<td>35.7</td>
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<td>37.2</td>
<td>34</td>
<td>26.6</td>
<td>26</td>
<td>23.2</td>
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<td>35.9</td>
<td>45</td>
<td>40.2</td>
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<td>Weather on homepage</td>
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<td>67.7</td>
<td>88</td>
<td>68.8</td>
<td>56</td>
<td>50.0</td>
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<td>Consumer news</td>
<td>14</td>
<td>5.0</td>
<td>34</td>
<td>26.6</td>
<td>1</td>
<td>0.9</td>
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<td>Arts, ent., &amp; leisure</td>
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<td>55.5</td>
<td>44</td>
<td>39.3</td>
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<td>Community news</td>
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<td>67.7</td>
<td>75</td>
<td>58.6</td>
<td>24</td>
<td>21.4</td>
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<td>Editorials</td>
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<td>83.0</td>
<td>12</td>
<td>9.4</td>
<td>12</td>
<td>10.7</td>
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<td>Multimedia presentation</td>
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<td>125</td>
<td>97.7</td>
<td>110</td>
<td>98.2</td>
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<td>116</td>
<td>90.6</td>
<td>107</td>
<td>95.5</td>
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<td>Mention of sponsors of other media</td>
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<td>50</td>
<td>39.1</td>
<td>86</td>
<td>76.8</td>
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<td>Calendar of events</td>
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<td>60</td>
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<td>Searchable photo archives</td>
<td>55</td>
<td>19.5</td>
<td>4</td>
<td>3.1</td>
<td>21</td>
<td>18.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search engine for Web site</td>
<td>205</td>
<td>72.7</td>
<td>88</td>
<td>68.8</td>
<td>44</td>
<td>39.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer support/consumer services</td>
<td>176</td>
<td>62.4</td>
<td>57</td>
<td>44.5</td>
<td>77</td>
<td>68.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company info</td>
<td>222</td>
<td>78.7</td>
<td>94</td>
<td>73.4</td>
<td>47</td>
<td>42.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posting of jobs with media</td>
<td>59</td>
<td>20.9</td>
<td>50</td>
<td>39.1</td>
<td>56</td>
<td>50.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee info</td>
<td>61</td>
<td>21.6</td>
<td>38</td>
<td>29.7</td>
<td>72</td>
<td>64.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virtual tour of newsroom</td>
<td>7</td>
<td>2.5</td>
<td>2</td>
<td>1.6</td>
<td>2</td>
<td>1.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Links to other media</td>
<td>83</td>
<td>29.4</td>
<td>104</td>
<td>81.3</td>
<td>93</td>
<td>83.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date/time</td>
<td>236</td>
<td>83.7</td>
<td>77</td>
<td>60.2</td>
<td>24</td>
<td>21.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sitemap</td>
<td>127</td>
<td>45.0</td>
<td>68</td>
<td>53.1</td>
<td>104</td>
<td>92.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timed updates</td>
<td>78</td>
<td>27.7</td>
<td>51</td>
<td>39.8</td>
<td>15</td>
<td>13.4</td>
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Research Question 1 sought to determine which dimension of interactivity (audience-oriented and source-oriented) was more prevalent on traditional media Web sites. To answer this question, two measures of interactivity were constructed. The first, audience-oriented interactivity represents the range of options or choice of content available to the user to interact with, such as local news, national news, international news, sports, weather, consumer news, and health (see Table 1 for audience-oriented interactivity items). A summed score was computed to represent the volume of audience-oriented interactivity on traditional media Web sites (scores could range from 0 to 34). A one-way ANOVA test was used to compare the differences in audience-oriented interactivity for each of the traditional media. Results show that the three media were not significantly different in audience-oriented interactivity; though, traditional radio station Web sites (M = 13.31) provided slightly more audience-oriented interactivity when compared to traditional television station Web sites (M = 12.53) and traditional newspaper Web sites (M = 12.27).

The second interactivity measure was source-oriented interactivity. Source-oriented interactivity was operationalized by determining how traditional media facilitate reciprocal communication between users of content and media Web sites, such as forums, chatrooms, games, and language options. All reciprocal communication items were summed to represent a source-oriented interactivity score ranging from

<table>
<thead>
<tr>
<th></th>
<th>Newspaper</th>
<th>Television</th>
<th>Radio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freq</td>
<td>Percent</td>
<td>Freq</td>
</tr>
<tr>
<td>Forum or bulletin board</td>
<td>81</td>
<td>28.7</td>
<td>20</td>
</tr>
<tr>
<td>Chat/discussion area</td>
<td>26</td>
<td>9.2</td>
<td>7</td>
</tr>
<tr>
<td>E-mail (i.e., letter to editor or reporter)</td>
<td>267</td>
<td>94.7</td>
<td>122</td>
</tr>
<tr>
<td>Games</td>
<td>48</td>
<td>17.0</td>
<td>19</td>
</tr>
<tr>
<td>Survey or poll</td>
<td>115</td>
<td>40.8</td>
<td>38</td>
</tr>
<tr>
<td>Customized news to e-mail (e-newsletter)</td>
<td>133</td>
<td>47.2</td>
<td>67</td>
</tr>
<tr>
<td>Language options</td>
<td>10</td>
<td>3.5</td>
<td>6</td>
</tr>
<tr>
<td>Subscription to print newspaper</td>
<td>258</td>
<td>91.5</td>
<td>5</td>
</tr>
<tr>
<td>Monetary sponsorship</td>
<td>4</td>
<td>1.4</td>
<td>5</td>
</tr>
<tr>
<td>Donation to media</td>
<td>3</td>
<td>1.1</td>
<td>7</td>
</tr>
</tbody>
</table>
0 to 10 (see Table 2). One-way ANOVA results followed by the Tukey post hoc test for multiple comparisons revealed that all traditional media differed significantly in source-oriented interactivity on their Web sites, $F(2, 519) = 84.61, p < 0.001$.

Specifically, traditional newspaper Web sites ($M = 3.35$) were more likely than traditional television station Web sites ($M = 2.27$) and traditional radio station Web sites ($M = 1.74$) to provide source-oriented interactivity.

Thus, based on the summed scores computed for both audience-oriented interactivity and source-oriented interactivity, the answer to Research Question 1 found audience-oriented interactivity more prevalent on traditional media Web sites compared to the summed scores for source-oriented interactivity for traditional media Web sites.

Research Question 2 examined whether or not traditional radio station Web sites provided more or less interactivity compared to traditional newspaper Web sites and traditional television station Web sites. Findings indicated that traditional radio station Web sites provided slightly more audience-oriented interactivity on their Web sites compared to other traditional media. However, traditional newspaper Web sites provided more source-oriented interactivity on their Web sites compared to traditional radio station Web sites and traditional television station Web sites.

Research Question 3 looked at the types of two-way interactive communication aside from e-mail traditional media provide on their Web sites. As defined by Ha and Lincoln (1998), reciprocal communication is a type of source-oriented interactivity that consists of two-way communication between company and user. Analysis revealed that traditional media have not provided much beyond e-mail with regard to two-way interactive communication (see Table 2). Although penetration was not nearly as high, other less widespread two-way interactive communication included customized news to e-mail, search engine for entire Web site, and searchable archive of news stories.

Research Question 4 measured the extent to which traditional radio station Web sites have taken advantage of the emerging systems for transmitting live and archived sound and video, compared to traditional newspaper Web sites and traditional television station Web sites. As shown in Table 1, traditional radio station Web sites provided more archived sound and streaming media compared to other traditional media Web sites; however, traditional television station Web sites provided more archived video than both traditional radio station Web sites and traditional newspaper Web sites.

**Discussion**

This study is an updated look at how traditional media Web sites interact with users beyond the interactive mechanisms typically available with traditional media. As a whole, audience-oriented interactivity was more prevalent on traditional media Web sites than source-oriented interactivity. Although not statistically significant, analysis found that traditional radio station Web sites provided slightly more
audience-oriented interactivity compared to the other traditional media; traditional newspapers, however, provided more source-oriented interactivity compared to other traditional media Web sites. Analysis also revealed that regardless of the medium and the dimension of interactivity, e-mail was by far the most prevalent form of two-way interactive communication on traditional media Web sites. Further, traditional radio stations were actively streaming media and providing more archived sound on their Web sites compared to other traditional media, and traditional television stations were including more archived video on their Web sites than other traditional media.

Contrary to past radio Web analyses (Chan-Olmsted & Park, 2000; Greer & Mensing, 2004; Lin & Jeffres, 2001; Pitts & Harms, 2003; Potter, 2002), these findings show that traditional radio stations have started to include more content and features on their Web sites, and are providing streaming media and archived sound more than in the past. These results are also consistent with Ren and Chan-Olmsted (2004), who found more audience-oriented interactivity than source-oriented interactivity on radio Web sites. However, the data presented here continue to replicate past research that shows all traditional media are not sophisticated in their use of reciprocal interactivity for communication purposes. Mostly, these Web sites have done little to engage audience interaction beyond e-mail, although customized news to e-mail is on the rise among all traditional media Web sites. According to Ha and Lincoln (1998), “the generally low use of interactive devices by Web designers reveals a discrepancy between the interactive capability of the medium and the actual implementation of interactivity in business sites” (p. 466). Therefore, it is possible low interactivity is due to traditional media’s uncertainty as to how best to implement interactivity and the convergence of emerging technologies on these Web sites to engage audience participation beyond mechanisms found in traditional media.

As predicted by industry leaders (Braiker, 2000; Evans & Smethers, 2000; Kaneb, 2000; Kennedy, 2000; Levi, 2001; Lind & Medoff, 1999), this research found that traditional radio station Web sites are moving ahead to provide streaming media and the transmission of live and archived sound, as well as audience-oriented interactivity. Yet, research has speculated that commercial traditional radio stations would most likely not adopt these technologies because college radio stations are less concerned with licensing issues than commercial radio stations (McClung & Lloyd, 2003; McClung et al., 2003). Data presented here provides evidence that McClung et al.’s (2003) predictions about commercial radio stations’ adoption of streaming media were erroneous. Still, the question remains, why are all media slow at adopting these technologies and interactive features as an opportunity to strengthen their relationship with audiences, especially when “the potential for accessibility and interactivity are the Internet’s strongest points” (Pitts & Harms, 2003, p. 281)?

Future research should consider the motivations for why people are using these Web sites. Longitudinal research will help determine if Web producers are taking into account what users want. Research also needs to examine if in fact the media
are soliciting advertisers as a source of revenue to support their Web sites. If so, then it is likely that dynamic content and features will increase if there is money to support such a presence on the Web. As such, research might look to see if economics continues to influence the dynamic content provided on these Web sites. Another possibility may be the lag in developing these features is “radio management’s inattentiveness to the desires of their audiences when determining the informational content of their Web sites” (Potter, 2002, p. 381). Perhaps then, Lochte (2000) was correct that the adoption of these technologies is motivated by economic, sociological, and cultural factors, and quite possibly explains radio stations as well as other media’s slow adoption of these technologies.

According to Jenkins (2004), “Media companies are learning how to accelerate the flow of media content across delivery channels to expand revenue opportunities, broaden markets and reinforce viewer commitments. Consumers are learning how to use these different media technologies to bring the flow of media more fully under their control and to interact with other users” (p. 37). Therefore, convergence forces the media to rethink how to go about presenting content and engaging the audience on the Web different from traditional media. Or, as Jenkins suggests, “a more integrated structure whereby each media manifestation makes a distinct but interrelated contribution to the unfolding of a narrative universe,” so as to create media engagement beyond traditional passive storytelling experiences (p. 40). Since the time of this research, news blogs and RSS feeds were just beginning to penetrate traditional media Web sites; further, some of the interactive technologies that were difficult to use in the past are more commonplace. Therefore, it would be interesting to see how traditional media have adopted blogs and other interactive technologies as a form of source-oriented interactivity, and in return how this has inspired user-generated content.

Possibly newspapers lag behind radio stations and television stations integration of streaming media as well as archived sound and video because as Randle and Mordock (2002) proposed, this content easily carries over from their traditional counterpart. Therefore, for newspapers to provide this content they must generate it themselves or form alliances or partnerships with radio and television stations; or possibly converge with these media to make available such content on their Web sites. For example, Dailey, Demo and Spillman (2005) found a limited number of newspapers committed to partnerships, coopetition, content sharing or convergence with television stations. According to Evans and Smathers (2001), “Webcasters will be challenged to keep content fresh, and to provide information that is primarily local … because local content will provide broadcasters with their key positioning strategy…. ” (p. 23). However, based on the data collected in this study, radio station Web sites appear to make available mostly national and international content compared to local content, whereas newspapers provided the most local content of all traditional media. Thus, by partnering or converging with newspapers, radio stations will be able to provide local content, conversely newspapers will be able to present streaming media as well as archived video and sound with stories.
Future research might consider how partnerships, alliances, or convergence operates between media to see if this is a way to provide unique content and information beyond that found in this study. Therefore, Evans and Smethers' (2001) suggestion for more research in this area is warranted, along with research focused on user-generated content so that what these Web sites are doing is paired with what users want. Jenkins (2004) argues, the media, in particular radio, are leery to invest in the Web for fear of an already fragmented market. After all, each time they move a viewer from, say, television to the Internet, there is a risk that the consumer may not return. Sometimes media executives are thinking across media; sometimes they cannot extract themselves from medium-specific paradigms. Collaborations, even within the same companies, are harder to achieve than we might imagine looking at top-down charts mapping media ownership. The closer to the ground you get, the more media companies look like dysfunctional families (p. 37).

In conclusion, the findings of this research show that while traditional media presence has grown online and the media have made an effort to provide more content and features on their Web sites, they would all benefit from further development of technologies and interactivity. Thus, it is fair to say that for now at least, traditional media are playing it safe in their venture online by repurposing or simply extending content from their traditional counterpart. Nonetheless, as more technology becomes available and broadband access continues to penetrate audiences, it will be interesting to see how traditional media incorporate dynamic content and interactive features beyond the scope of those identified on the Web sites in this analysis. Increasingly, more people will seek out the Internet for news and information. In view of this, traditional media sources will strive to create more sophisticated Web sites; they will put more energy into building content for an audience accessing the Web as their primary news source.

Notes

1The Wayback Machine (http://www.archive.org) is an Internet archive that started in 1996 to provide regular “snapshots” of older versions of webpages.


3Previous media studies have also compiled their sample from AJR’s listing (Massey & Levy, 1999; Pitts, 2003; Peng et al., 1999; Pitts & Harms, 2003; Randle & Mordock, 2002).

4Because of the many different ways to construct and design a Web site, five software packages were used to capture web sites: Internet Explorer for Mac, Pagesucker, webCopier, webTracker, and Blue Crab.

5According to Bakeman and Gottman (1997), .70 is an informal criterion acceptable for reliability. Items coded below .70 were dropped from the study.
The coding directions and sheet are available upon request from the author.

Circulation data was gathered from Editor and Publisher International Yearbook 2006. Circulation numbers are circumspect because they are based on print circulation and not web site viewership. No circulation figures were available for 3.9% of newspapers selected into the sample. Television market rankings were compiled from Nielsen Media Research Local Universe Estimates 2005–2006; available at http://www.nielsenmedia.com/DMAs.html Radio market rankings were compiled from Arbitron Market Survey Schedule & Population Rankings 2005–2006; available at http://www.arbitron.com/downloads/redbook_fa05.pdf

At the time of data collection the WB and UPN were separate television stations and had not merged to form the CW.

References


Pew Internet & American Life Project (March 22, 2006a). Technology & media use: Online News: For many home broadband users, the Internet is a primary news source, viewed November 1, 2006 at http://www.pewinternet.org/PPF/r/178/report_display.asp


