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by

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**Evaluating the Effectiveness of Facebook and Twitter as
New Publishing Platforms for Newspapers**

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Abstract

Evaluating the Effectiveness of Facebook and Twitter as New Publishing Platforms for Newspapers

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With the growing popularity of social network sites such as Facebook and Twitter, newspapers have started to use these sites as alternative platforms for news delivery. Analyzing the use of Facebook and Twitter by the top 74 U.S. newspapers, this study examines the effectiveness of social network sites as news platforms. The results showed that most of the major newspapers have adopted social network sites but reached a very limited number of subscribers. After controlling for print circulation, there is no significant correlation between the number of social network subscribers and the number of website visitors. Overall, the effectiveness of Facebook and Twitter as news platforms remained questionable.

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Introduction

Since the mid-1990s, the trend toward digitalization has pushed more and more newspapers online. There are more than 4,600 news U.S.-based websites, of which more than 1,400 are newspapers' sites.¹ Now, with the growing popularity of blogs and social network sites such as Facebook and Twitter, newspapers are beginning to distribute their content through such sites as well.

An obvious reason for newspapers doing so is the broad audience social network sites have. Facebook, for example, is the fifth highest-trafficked website in the U.S. It attracts 92 million U.S. unique visitors a month, four times that of *The New York Times*, the largest U.S. online newspaper in terms of unique visitors.² Facebook's traffic is considerably high, and part of this traffic goes to news media sites afterward. A recent report shows that Facebook accounts for 3.52% of total traffic to news media websites, only behind Google (17.32%), Yahoo (7.98%), and MSN (4.43%).³ The fact that Facebook is now a major referral site directing traffic to news and media sites suggests that some social network site users follow hyperlinks on social network sites to news sites. In fact, some of the links are provided by news media sites because a growing number of

¹ PEW Research, "Understanding the Participatory News Consumer | Project for Excellence in Journalism (PEJ)," http://www.journalism.org/analysis_report/understanding_participatory_news_consumer; Editor & Publisher, "Circulation of U.S. Daily Newspapers by Circulation Groups," in (Editor & Publisher International Year Book, 2008).

² "comScore Media Metrix Ranks Top 50 U.S. Web Properties for August 2009 - comScore, Inc.," http://www.comscore.com/Press_Events/Press_Releases/2009/9/comScore_Media_Metrix_Ranks_Top_50_U.S._Web_Properties_for_August_2009.

³ "Hitwise Intelligence - Heather Hopkins - North America," http://weblogs.hitwise.com/us-heather-hopkins/2010/02/facebook_largest_news_reader_1.html.

news organizations, including newspapers, have begun maintaining their own presence on social network sites.⁴

Newspapers maintain their presence on social network sites for a variety of reasons, such as delivering headlines of news stories, promoting events, and collecting user-generated content.⁵ The most common practice is to post links to news stories on the newspaper website, hoping social network site users would click on the link to read the entire story on the newspaper website.⁶ In other words, newspapers are using social network sites as alternative portals their own websites. Some newspapers (e.g., *The New York Times* and *The Austin American-Statesman*) have devoted substantial resource (e.g., hiring social media specialists), showing high expectations for these alternative platforms.⁷

However, it's worth asking whether this strategy is effective. First, not all users on social network sites are interested in consuming news. The question of how many users newspapers can reach through social network sites is still unanswered. Second, do the

⁴ Sara Kiesler and Nick Eaton, "Starbucks, Microsoft are mighty in social-media marketing," http://www.seattlepi.com/business/411012_social12.html; Jacqui Chew, "Newspapers find gold in "we" media - iMediaConnection.com," *iMediaConnection*, August 29, 2007, <http://www.imediaconnection.com/content/16406.imc>; Zachary M. Seward, "NYT sees success in Facebook push » Nieman Journalism Lab," *Nieman Journalism Lab*, <http://www.niemanlab.org/2008/11/nyt-claims-success-in-facebook-push/>.

⁵ Chris Treadaway, "Why Newspapers Need to Heed Facebook, Now," http://www.readwriteweb.com/archives/why_newspapers_need_to_heed_facebook_now.php; Woody Lewis, "10 Ways Newspapers are Using Social Media to Save the Industry," <http://mashable.com/2009/03/11/newspaper-industry/>; Greg Martire, "Engaging Users: User-Generated Content and Tools for Newspapers," *Newspaper Association of America*, 2008, <http://www.naa.org/docs/Digital-Media/UGCReport0608.pdf>.

⁶ Beth Lawton, "Snapshots: Twittering the News," http://www.naa.org/Resources/Articles/DigitalEdge_SnapshotTwittering/DigitalEdge_SnapshotTwittering.aspx.

⁷ "The New York Times Hires a Social Media Editor; Does It Need One?," <http://mashable.com/2009/05/26/nyt-social-media-editor/>.

links provided on social network sites effectively increase newspaper website traffic?

There is no evidence showing a correlation much less causality. If not many users are directed from a social network site to the newspaper website, maintaining a social network presence contributes little to the newspaper's advertising revenue, suggesting a waste of resource and efforts. In addition, choosing the appropriate social network platform is another issue for newspapers. Different social network sites provide different features. Which social network site is the most effective news platform? These are crucial questions for newspapers wanting to pursue marketing strategies on social network sites. This study represents an effort at determining how well social network sites serve the major U.S. newspapers as alternative publishing platforms.

Literature Review

Social Network Sites

Social network sites are defined in many ways. Some scholars defined social network sites as sites where a user keeps his/her own profile and connects or gets connected with other users.⁸ Some suggested that social network sites are based on traditional social network, while others argued that social network sites help people establish new relationships.⁹ Boyd incorporated these definitions and defined a social networking site as being a:

*Web-based service that allows individuals to 1) construct a public or semi-public profile within a bounded system, 2) articulate a list of other users with whom they share a connection, and 3) view and traverse their list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from site to site.*¹⁰

Under Boyd's definition, many websites such as YouTube (www.youtube.com) and Flickr (www.flickr.com) can be classified as social network sites, too.¹¹ Social network sites are mainly dominated by the young generation. The Pew Research Center reported that 22% of Americans are using social network sites, and 65% of Americans age 18 to

⁸ Amanda Lenhart and Mary Madden, "Social Networking Websites and Teens: An Overview," *Pew Internet & American Life Project* 3 (2007).

⁹ Johnny Snyder, Donald Carpenter, and Gayla J. Slauson, "MySpace. com—A Social Networking Site and Social Contract Theory," *Director* (2006): 07; Catherine M. Ridings and David Gefen, "Virtual community attraction: Why people hang out online," *Journal of Computer-Mediated Communication* 10, no. 1 (2004): 1083–6101.

¹⁰ Danah M. Boyd and Nicole B. Ellison, "Social network sites: Definition, History, and Scholarship," *Journal of Computer Mediated Communication* 13, no. 1 (2007): 210.

¹¹ Patricia G. Lange, "Publicly Private and Privately Public: Social Networking on YouTube," *Journal of Computer Mediated Communication* 13, no. 1 (2007): 361.

24 have at least one social network site account, of whom around 10% regularly get news from social network sites.¹²

Among all the social network sites, this study focuses on two of the most popular social network sites in the U.S., Facebook and Twitter.

Facebook

Worldwide, Facebook (www.facebook.com) is the largest social network site.¹³ It was launched in 2004 as a college student directory before evolving into a commercial website.¹⁴ Facebook has more than 125 million U.S. users and 400 million active users worldwide, who visit the site at least once a month.¹⁵ Facebook currently offers its service mainly to registered users; that is, a user must register an account to access most of the content on Facebook, except for some public pages. Once an account is created, a user can add another user as a Facebook friend by sending a request. If the other user confirms and replies to the request, their “friendship” is established.¹⁶

Depending on each user’s setting, Facebook users can see part or all the activities of their friends. Facebook users can post a short status or a message on their own or their friends’ “walls.” The wall is a space on each user’s profile page that allows friends to post messages for the user to see while displaying the time and date the message was

¹² “2008 PEW Research Center for The People & The Press News Consumption and Believability Study,” <http://people-press.org/reports/pdf/444.pdf>.

¹³ Catherine Holahan, “Facebook: No. 1 Globally,” *BusinessWeek: Technology*, August 13, 2008, http://www.businessweek.com/technology/content/aug2008/tc20080812_853725.htm.

¹⁴ John Markoff, “The tangled history of Facebook - The New York Times,” *The New York Times*, <http://www.nytimes.com/2007/08/31/business/worldbusiness/31iht-facebook.5.7340806.html>.

¹⁵ “Facebook | Statistics,” <http://www.facebook.com/principles.php#!/press/info.php?statistics>; “facebook.com - Quantcast Audience Profile,” <http://www.quantcast.com/facebook.com>.

¹⁶ Danah M. Boyd, “Friends, Friendsters, and Myspace top 8: Writing Community into Being on Social Network Sites,” *First Monday* 11, no. 2 (2006).

written. Users can also write long blog-style notes and upload photos. By default, only a user's friends can see the status, notes, and photos.¹⁷ Users also can customize the settings to make all the activities public or all private. In addition to posting status/notes and uploading photos, Facebook offers more than 500,000 applications, mainly games.¹⁸ Most applications are developed by third-party programmers. Facebook offers the programming environment and platform for developers to distribute their works.¹⁹ Popular games like Farmville can have up to 82 million monthly active users.²⁰

Because of the amount of traffic and number of registered users, businesses use Facebook for marketing purposes.²¹ Facebook offers business accounts for companies to carry out advertising campaigns.²² A company may register a business account using the company's name. The major difference between business and personal accounts is that personal accounts are not allowed to post commercial ads. Business account owners are not allowed to browse profiles of users outside their network. Neither can a business account receive or send friend requests, so there is no "friendship" for a business account. Friendship-like connections, called "becoming a fan," can exist between a personal account user and a business account. After a business account is created, the company will have a fan page with a "become a fan" button on it. No confirmation needed, a user

¹⁷ Heather R. Lipford, Andrew Besmer, and Jason Watson, "Understanding Privacy Settings in Facebook with an Audience View," *Usability, Psychology, and Security* (2008).

¹⁸ "Facebook | Statistics."

¹⁹ Wayne Graham, *Facebook API Developers Guide* (Springer, 2008).

²⁰ "Facebook | FarmVille," <http://www.facebook.com/FacebookAds#!/FarmVille?v=info&ref=ts>.

²¹ Rodney Rumford, "Facebook-Marketing Opportunities for Your Brand," *FaceReviews.com* 25 (2007); 2008; Danny Meadows-Klue, "Opinion piece: Falling in Love 2.0: Relationship marketing for the Facebook generation," *Journal of Direct, Data and Digital Marketing Practice* 9, no. 3 (3, 2008): 245-250.

²² "Facebook | Business Accounts," <http://www.facebook.com/help.php?page=721>.

becomes a business account's fan with a single click. After becoming a company's fan, a user can see any updates from the account, just as from other Facebook friends. There are more than 600,000 fan pages on Facebook, although most have no more than 1,000 fans.²³ Some newspapers also create business accounts and use fan pages to share news content (e.g., headlines or links) with their fans or subscribers

The huge marketing potential of Facebook comes not only from its number of users, but also from detailed audience profiles. Facebook contains detailed user profiles including demographic information and personal interests. Hence, with correct key words, ads on Facebook can best reach a target audience.²⁴ In addition to reaching target audiences successfully, businesses also look forward to driving more audience from Facebook fan pages to their own websites.²⁵ Businesses can track how many clicks are directed from social network sites using Internet research tools such Google Analytics.²⁶

²³ Erick Schonfeld, "It's Not Easy Being Popular. 77 Percent Of Facebook Fan Pages Have Under 1,000 Fans - washingtonpost.com," <http://www.washingtonpost.com/wp-dyn/content/article/2009/11/28/AR2009112801120.html>.

²⁴ Louise Story, "Facebook Is Marketing Your Brand Preferences (With Your Permission)," *The New York Times*, November 7, 2007, sec. Technology, http://www.nytimes.com/2007/11/07/technology/07adco.html?_r=1&oref=slogin; Kermit Pattison, "Small-Business Guide - Marketing Your Business With Facebook," *The New York Times*, November 11, 2009, http://www.nytimes.com/2009/11/12/business/smallbusiness/12guide.htm?pagewanted=1&_r=1.

²⁵ Mikal E. Belicove, "10 Ways a Facebook Fan Page Helps Your Business - Facebook Fan Pages for Business - Entrepreneur.com," <http://www.entrepreneur.com/microsites/web-smarts/article204492.html>; Ayelet Noff, "The top 5 reasons brands fear social media | Socialmedia.biz," <http://www.socialmedia.biz/2010/02/10/the-top-five-reasons-brands-fear-social-media/>.

²⁶ Noff, "The top 5 reasons brands fear social media | Socialmedia.biz."

Twitter

Another popular social network site is Twitter (www.twitter.com). Launched in 2006, Twitter has become the No. 3 social network site in the U.S.²⁷ Twitter has 27 million U.S. users and more than 105 million global users.²⁸ Internet users can browse Twitter without registering an account, but to post “tweets” a user must register. To “tweet” is to post a short, up to 140 characters, status update. Because of the short nature of these posts, Twitter is also classified as a “micro-blogging” site.²⁹ Posting tweets and reading other people’s tweets are Twitter’s only features; no writing longer notes, playing third-party games, or uploading photos directly to Twitter.³⁰

Yet Twitter still has all the characteristics of a social network site. It builds connections with other users through “following.” Without acquiring the other’s approval, a user can follow another. A user can, however, block certain followers if he or she doesn’t want to be followed. Once a connection is established, a user will see in real time on her Twitter page all the tweets of those s/he follows.

²⁷ “Top 20 Most Popular Social Networking Websites,” <http://www.ebizmba.com/articles/social-networking-websites>; Dom Sagolla, “140 Characters » How Twitter Was Born,” <http://www.140characters.com/2009/01/30/how-twitter-was-born/>.

²⁸ “twitter.com - Quantcast Audience Profile,” <http://www.quantcast.com/twitter.com#summary>; Goug Gross, “Twitter Claims 105 Million Registered Users – SciTechBlog - CNN.com Blogs,” <http://scitech.blogs.cnn.com/2010/04/14/twitter-claims-105-million-registered-users/>.

²⁹ Akshay Java et al., “Why We Twitter: Understanding Microblogging Usage and Communities,” in *Proceedings of the 9th WebKDD and 1st SNA-KDD 2007 workshop on Web mining and social network analysis*, 2007, 56–65; Martin Ebner and Mandy Schiefner, “Microblogging-more than Fun,” in *Proceedings of IADIS Mobile Learning Conference*, vol. 155, 2008, 159.

³⁰ “5 Ways to Share Images on Twitter,” <http://mashable.com/2009/05/19/twitter-share-images/>.

At first glance, Twitter's simplicity—with its very limited functions—might seem unappealing. Yet Twitter's success lies in its simplicity.³¹ The simplicity was designed for cell phone users. A text message from a cell phone is limited to 160 characters. Twitter was designed for users to update their status via their cell phones. Reserving 20 characters for user names, Twitter adopted the limit of 160 characters from Short Message Service (SMS).³² Now users can access Twitter via text messaging as well as more than 50,000 third-party mobile and Internet applications.³³

What makes Twitter a powerful tool for sharing information is that users, through various devices, can “tweet” anytime and anywhere. Such utility is especially powerful during breaking news.³⁴ For instance, when entertainer Michael Jackson died suddenly in 2009, the first tweet was reported 20 minutes after the initial 911 call, an hour before mainstream news media broke the news.³⁵ Similar stories involve the 2008 southern California earthquake, the 2009 Iran election, and the 2008 India terrorist attacks.³⁶

³¹ “Twitter Took Off from Simple to 'Tweet' Success - USATODAY.com,” http://www.usatoday.com/tech/products/2008-07-20-twitter-tweet-social-network_N.htm.

³² Sarah Milstein, “Twitter 101 for Business — A Special Guide,” *Twitter 101*, <http://business.twitter.com/twitter101>.

³³ “Twitter,” <http://twitter.com/about#about>.

³⁴ Amanda L. Hughes and Leysia Palen, “Twitter Adoption and Use in Mass Convergence and Emergency Events,” *International Journal of Emergency Management* 6, no. 3 (2009): 248–260; L. Palen et al., “Crisis in a Networked World,” *Social Science Computer Review* 27, no. 4 (2009): 467–480; B. De Longueville, R. S. Smith, and G. Luraschi, “OMG, from Here, I Can See the Flames!: a Use Case of Mining Location Based Social Networks to Acquire Spatio-temporal Data on Forest Fires,” in *Proceedings of the 2009 International Workshop on Location Based Social Networks*, 2009, 73–80; Lisa R. France, “Social-networking Sites Share Breaking News - CNN.com,” <http://www.cnn.com/2009/TECH/01/22/social.networking.news/index.html>.

³⁵ Jagan Sankaranarayanan et al., “TwitterStand: News in Tweets,” in *Proceedings of the 17th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems* (presented at the 17th ACM SIGSPATIAL International Conference, Washington, U.S., 2009), 42–51.

³⁶ Noam Cohen, “Twitter on the Barricades: Six Lessons Learned,” *The New York Times*, June 21, 2009, sec. Week in Review, <http://www.nytimes.com/2009/06/21/weekinreview/21cohenweb.html>; “Twitter Sees Earth-shaking Activity during SoCal Quake | Technology | Los Angeles Times,”

Many small businesses are using Twitter as a marketing tool to cut down the cost of placing ads on traditional media.³⁷ Twitter currently doesn't offer the business account option for professional marketers. Businesses must register personal accounts to carry out commercial campaigns on Twitter.³⁸ Some newspapers have already been using Twitter to distribute their content and to promote events as well.³⁹

Facebook and Twitter are both popular social network sites in the U.S. with different features. Table 1 compares Facebook and Twitter's features.

Table 1
Comparison of Facebook and Twitter features

	Facebook	Twitter
# of U.S. Registered Users	125 million	27 million
# of Global Registered Users	400 million	105 million
Symmetric Friendship	Friend	N/A
Asymmetric Friendship	Fan	Following
Features	Writing status updates, notes, uploading photos	Writing short status update (Tweets)
Business Account Option	Yes	N/A

<http://latimesblogs.latimes.com/technology/2008/07/twitter-earthqu.html>; "Citizen Journalists Provided Glimpses of Mumbai Attacks - NYTimes.com,"

<http://www.nytimes.com/2008/11/30/world/asia/30twitter.html>.

³⁷ Claire C. Miller, "Marketing Small Businesses With Twitter,"

<http://www.nytimes.com/2009/07/23/business/smallbusiness/23twitter.html>; Iris Taylor, "Twitter can be a profitable tool for marketing | Richmond Times-Dispatch," *Richmond Times-Dispatch*,

http://www2.timesdispatch.com/rtd/business/local/metrobusiness/article/MIND06_20090703-194201/277862/; Mya Frazier, "5 Social Media Tips for Small Business - FOXBusiness.com,"

FoxBusiness.com, <http://www.foxbusiness.com/story/social-media-tips-small-business/>.

³⁸ Milstein, "Twitter 101 for Business — A Special Guide."

³⁹ Lawton, "Snapshots: Twittering the News."

Facebook and Twitter as New Delivery Tools

Social network sites were conceived as a way to either create a map of a person's social offline network or to start a new social network online.⁴⁰ On Facebook or Twitter, most users' friend lists still are based on their real life social network.⁴¹ Such friendships are usually based on mutual acknowledgement—both sides recognize each other as an acquaintance. A new form of interpersonal relationship was created with the Facebook “fan” or Twitter's “follower.” We can call this relationship an asymmetric friendship.⁴² A fan and the person or business being fanned does not necessarily need to know each other. In her offline life, the followed might have zero contact with most of her followers.

When the asymmetric friendship is adopted by professional marketers, it no longer represents a person-to-person relationship but a business-to-person relationship. The connection is analogous to offline subscriptions instead of friendships. Many newspapers distribute their news stories through social network sites. Their fans/followers get the news through feeds. Such a relationship can be viewed as another form of subscription, which is how, hereafter, this study will refer to it. Those users following or being fans of a newspaper can be viewed as social network sites subscribers.

⁴⁰ Danah M. Boyd, “Why Youth♥ Social Network Sites: The Role of Networked Publics in Teenage Social Life,” *The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning* (2007): 119–142; Jaz H. Choi, “Living in Cyworld: Contextualising Cy-Ties in South Korea” (2009); Nicole B. Ellison, Charles Steinfield, and Cliff Lampe, “The Benefits of Facebook” Friends: “Social Capital and College Students' use of Online Social Network Sites,” *Journal of Computer Mediated Communication* 12, no. 4 (2007): 1143.

⁴¹ Sameer Hinduja Hinduja and Justin W. Patchin, “Personal Information of Adolescents on the Internet: A Quantitative Content Analysis of MySpace,” *Journal of Adolescence* 31, no. 1 (2008): 125–146.

⁴² Sankaranarayanan et al., “TwitterStand.”

Facebook and Twitter both offer asymmetric connecting options so that users can subscribe to newspapers' social network feeds. Some reported that Facebook directs more audience to businesses' websites, while others suggested that Twitter is a better news-sharing tool.⁴³ This study examines Facebook and Twitter as publishing platforms for newspapers. Their effectiveness is determined by the size of the subscriber base and by its capacity in driving traffic to newspaper websites.

Multiplatform News Consumption: Print, Web, and Social Network Sites

Clearly, a newspaper is no longer limited to the print format. It has expanded to the Web and on social network sites. Users may choose to use any of three forms, raising economic questions about the relationship between multiple demand-related products.⁴⁴

Economists categorize demand-related products as either substitutes or complements.⁴⁵ A substitute is a good that can be used to replace another; a complement is a good that goes with another. Margarine, for instance, serves as a substitute for butter. A hotdog goes with a hotdog bun and they are thus complements. Economists determine whether two goods are complements or substitutes by the cross elasticity of demand.

⁴³ "Does Facebook Drive as Much Traffic as Twitter?," http://www.bivingsreport.com/2009/does-facebook-drive-as-much-traffic-as-twitter/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+TheBivingsReport+%28The+Bivings+Report%29; "People Get Their News from Facebook, Google, not Twitter : BusinessJournalism.org Reynolds Center for Business Journalism," <http://businessjournalism.org/2010/03/17/people-get-their-news-from-facebook-google-not-twitter/>.

⁴⁴ Hsiang I. Chyi et al., "An Empirical Study of Online Newspaper Readership in Local Markets: Exploring Differences Between Hybrid and Online-Only Users," *The annual conference of the International Communication Association* (2009).

⁴⁵ Roger A. Arnold, *Economics* (Cengage Learning, 2007), 58-59.

Cross elasticity of demand is defined as the percentage change in quantity demand of product A divided by the percentage change in the price of product B.⁴⁶ When cross elasticity of demand is positive (i.e., > 0), the two products are substitutes. When the cross demand elasticity is negative (i.e., < 0), the two products are complementary goods. For example, the price of butter rises by 1 percent and as a result the demand of margarine increases by 2 percent. According to the equation, the cross elasticity of demand between these two goods is 2. Because the cross elasticity of demand is positive, butter and margarine are substitutes. In contrast, computers and Internet access are complementary goods, because, when the price of the computer increases, the demand of computers decreases, and so does the demand of Internet access. As a result, the cross elasticity is negative. Therefore, if the cross elasticity of demand is negative, the two products are complements; if the cross elasticity of demand is positive, the two products are substitutes.

Applying this principle to the three newspaper products discussed above, their categories – substitutes or complements – are rather unclear. Some readers might subscribe to the print edition as well as browse the Web edition. For them, these two goods are complements. Some readers, to save on subscription costs, drop the print edition and avail themselves of the free online edition, making the products substitutes. Some researchers identified the time displacement effect of the digital newspapers on the

⁴⁶ Collin Hoskins, Stuart McFadyen, and Adam Finn, *Media economics: Applying economics to new and traditional media* (Sage Publications, Inc, 2004), 42-44.

use of the print newspaper.⁴⁷ Other research has shown, however, that most online readers also read print editions.⁴⁸ For example, Chyi and Lasorsa reported 83% of the people who read their local daily newspaper online also read its print version.⁴⁹ Such research, with consistent results, indicates that online news and newspapers are complementary goods.⁵⁰

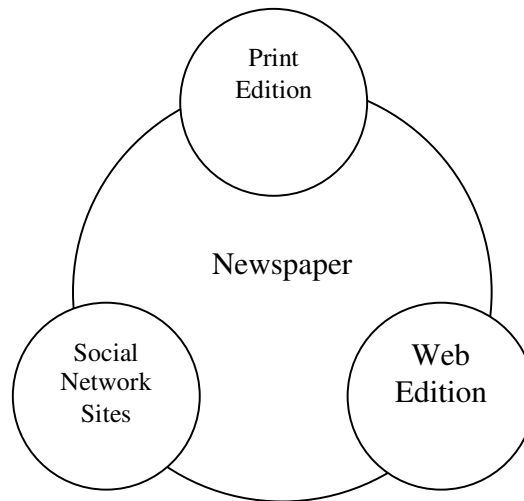
⁴⁷ Richard Perez-pena, "U.S. Newspaper Circulation Falls 10%," *The New York Times*, October 27, 2009, sec. Business / Media & Advertising, <http://www.nytimes.com/2009/10/27/business/media/27audit.html>; John Dimmick, Yan Chen, and Zhan Li, "Competition Between the Internet and Traditional News Media: The Gratification-Opportunities Niche Dimension," *Journal of Media Economics* 17, no. 1 (2004): 19.

⁴⁸ Hsiang I. Chyi and Dominic Lasorsa, "Access, Use and Preferences for Online Newspapers.," *Newspaper Research Journal* 20, no. 4 (1999); Hsiang I. Chyi and George Sylvie, "Online newspapers in the U.S.: Perceptions of Markets, Products, Revenue, and Competition," *International Journal on Media Management* 2, no. 2 (2000): 69-77; Ester De Waal, Klaus Schönbach, and Edmund Lauf, "Online Newspapers: A Substitute or Complement for Print Newspapers and Other Information Channels?," *Communications* 30, no. 1 (2005): 55-72; M. Gentzkow, "Valuing New Goods in a Model with Complementarity: Online Newspapers," *American Economic Review* 97, no. 3 (2007): 713-744.

⁴⁹ Hsiang I. Chyi and Dominic Lasorsa, "An Explorative Study on the Market Relation Between Online and Print Newspapers," *Journal of Media Economics* 15, no. 2 (2002): 91

⁵⁰ An Nguyen and Mark Western, "The Complementary Relationship between the Internet and Traditional Mass Media: The Case of Online News and Information," *Information Research* 11, no. 3 (2006): 11-3; Gentzkow, "Valuing New Goods in a Model with Complementarity."

Figure 1
Three different products of a newspaper



In conclusion, as newspapers deliver their content through social network sites, they are operating on these alternative platforms, offering new-but-related products in addition to the existing print and Web editions. (Figure 1) As previous research has examined the relationship between online and print newspapers, little research has considered social network sites as part of newspapers' business model.⁵¹ Therefore, it is important to examine these three products simultaneously: Specifically, whether newspapers' social network presence effectively directs users to the Web site edition remains unclear.⁵² Therefore, this study seeks to take a closer look into the effectiveness of Facebook and Twitter as alternative platforms for newspapers.

⁵¹ Chyi and Lasorsa, "An Explorative Study on the Market Relation Between Online and Print Newspapers."

⁵² Although Facebook is the fourth largest traffic source of news media sites, such referral traffic may result from the links shared by individual users or by newspaper companies. The real mechanism remains unclear.

Research Questions

Adoption of Facebook and Twitter

The vast number of registered users on social network sites has lured newspapers to join social network sites.⁵³ Indeed, using Facebook and Twitter to deliver news stories seems to have become a common practice for newspapers. The Bivings Group reported that all the top 100 U.S. newspapers are maintaining at least one Twitter account but there hasn't been research examining systematically the use of Twitter by newspapers.⁵⁴ Therefore, this study addresses the following set of research questions:

RQ1: How many top U.S. newspapers are using Facebook and Twitter? How many subscribers have they attained?

Audience Size on Multiple Platforms

Of the four news products (print, Web, Facebook, and Twitter editions), which reaches the most users? The social network sites seem to be soaring in popularity. So are newspapers reaching more readers through social network sites than through their own website? Or is the print edition still reaching the most readers? Also, social network sites have varying levels of registered user bases, services provided, and user demographics. For newspapers, it is important to know on which social network site newspapers can get the most for their investment. Also, do larger social network sites, with a larger user base, bring in more users who subscribe to news feeds offered by newspapers (i.e., Facebook

⁵³ "Tweeting Isn't Just for the Birds - Times-Standard Online," http://www.times-standard.com/business/ci_13933757.

⁵⁴ Allen Rindfuss, "The Use of Twitter by America's Newspapers," *The Bivings Report*, <http://www.bivingsreport.com/2009/the-use-of-twitter-by-americas-newspapers/>.

fans or Twitter followers)? This study also addresses the following set of research questions:

RQ2: Do newspapers reach more users who subscribe to their news feeds on Facebook or on Twitter? How does the audience size on social network sites (i.e., the number of subscribers) compare to that of the print edition (i.e., circulation) and the Web edition (i.e., the number of unique visitors)?

Relation between the Number of Social Network Site Subscribers and Website Unique Visitors

Since Twitter limits every tweet to 140 characters, newspapers can only post a story headlines on Twitter along with a shortened hyperlink to the story on their Web edition. On Facebook, the limit is 420 characters.⁵⁵ The thinking is that if the newspaper's Facebook fans or Twitter followers are interested in the story headline, they would click on the link to visit the newspaper's website. Thus the number of unique visitors to the Web site would have increased by one.⁵⁶ Hence, the more social network site subscribers a newspaper has, the more unique visitors to its website. The effectiveness of this method, however, is yet to be proved. There is no evidence showing a correlation- much less causality- between the number of social network site subscribers and the newspapers' website unique visitors. Therefore, this study addresses the following research question:

⁵⁵ "Facebook features - Wikipedia, the free encyclopedia," http://en.wikipedia.org/wiki/Facebook_features#cite_note-1.

⁵⁶ Unique visitors are defined as individuals users who visit the website within a certain period of time, see Thomas P. Novak and Donna L. Hoffman, "New Metrics for New Media: Toward the Development of Web Measurement Standards," *World Wide Web Journal* 2, no. 1 (1997): 213–246.

RQ3: How is a newspaper website's number of unique visitors related to its number of social network site subscribers (fans and followers)?

Note that a newspaper's print edition, Web edition, and social network site feeds can be viewed as three different-but-related products. Chyi and Lasorsa and other scholars in previous research have reported strong correlations between print circulation and the number of Web edition users.⁵⁷ But the correlation between the print edition and the social network site edition has yet to be reported. In addition, since the three products are related, the audience size of the print edition (i.e., circulation) might influence the audience size of the Web edition and that of the social network sites simultaneously. To investigate the real relationship between the audience size on social network sites and that of the Web edition, the influence of the print edition needs to be excluded. Therefore, this study also addresses the following research question:

RQ4: Controlling for circulation, to what extent is a newspaper website's number of unique visitors related to its number of social network site subscribers?

⁵⁷ Hsiang I. Chyi and Dominic Lasorsa, "Access, Use and Preferences for Online Newspapers.," *Newspaper Research Journal* 20, no. 4 (1999); Hsiang I. Chyi and George Sylvie, "Online newspapers in the U.S.: Perceptions of Markets, Products, Revenue, and Competition," *International Journal on Media Management* 2, no. 2 (2000): 69-77; Ester De Waal, Klaus Schönbach, and Edmund Lauf, "Online Newspapers: A Substitute or Complement for Print Newspapers and Other Information Channels?," *Communications* 30, no. 1 (2005): 55-72; M. Gentzkow, "Valuing New Goods in a Model with Complementarity: Online Newspapers," *American Economic Review* 97, no. 3 (2007): 713-744.

Method

Measurement

This study measures the following concepts with empirical data:

The audience size on Facebook is measured by the number of “fans,” who subscribe to the newspaper page.

The audience size on Twitter is measure by the number of “followers,” who subscribe to the feeds on the newspaper account.

The audience size of the Web edition is measured by the number of unique visitors, defined as “unique individuals or browsers” that visit the website within a specific period of time.⁵⁸

The audience size of the print edition is measured by weekday print circulation published by the Audit Bureau of Circulations.

Data

Web Traffic and Print Circulation Data

Print circulation and web traffic data used in this study were gathered from the Audience-FAX database, a database contributed to by the Audit Bureau of Circulations, by the Newspaper Association of America, and by Scarborough Research. Newspaper circulation was measured by the daily newspaper weekday circulation data in the Audience-FAX database, collected in a six-month period ending in September 2009, which were the most recent data available when this study was conducted. Newspapers

⁵⁸ “Audience-FAX FAQs for Tier One Newspapers,”
http://www.accessabc.com/services/n_audiencefaq.htm.

file their circulation statements to the Audience-FAX database, and the Audit Bureau of Circulations audits the statements and releases the data. Online data were reported to the Audit Bureau of Circulations by different third-party website research vendors including Nielsen Netratings⁵⁹, Omniture Sitecatalyst⁶⁰, Google Analytics⁶¹, and comScore.⁶²

Newspapers can choose which website research vendors to use. While these services measure website activities with various methods, the data released by the Audit Bureau of Circulations all follow the same guideline.⁶³ The Audit Bureau of Circulations also audits the web activity data.

In the U.S., the total weekday circulation of daily newspapers is 48.6 million. The top 15 newspapers account for one-fifth of that circulation.⁶⁴ The study selected all newspapers with weekday circulations of more than 100,000 in order to include the major daily newspapers in the analysis. Therefore, the sample set has covered the largest newspapers in the U.S.⁶⁵

⁵⁹ “Nielsen | Nielsen NetRatings,” http://en-us.nielsen.com/tab/product_families/nielsen_netratings.

⁶⁰ “Online Analytics | Web Analytics - SiteCatalyst | Online Business Optimization by Omniture,” http://www.omniture.com/en/products/online_analytics/sitecatalyst.

⁶¹ “Google Analytics | Official Website,” <http://www.google.com/analytics/>.

⁶² “Products & Services - comScore, Inc,” http://www.comscore.com/Products_Services.

⁶³ Bill Perry, “Uncovering the Discrepancies in Unique Measurement Data Generated by Panel and Census-Based Online Measurement Techniques,” <http://www.accessabc.com/press/abcipovpart2.htm>; “IAB - Audience Reach Measurement Guidelines,” http://www.iab.net/iab_products_and_industry_services/508676/guidelines/audiencemeasurement.

⁶⁴ “Journalism.org- The State of the News Media 2010,” http://www.stateofthemediamedia.org/2010/newspapers_audience.php#Top15.

⁶⁵ “Number of U.S. Daily Newspapers,” <http://www.stateofthemediamedia.org/2010/chartland.php?msg=1&id=1312&ct=line&dir=&sort=&c1=1&c2=1&c3=1&c4=1&c5=0&c6=0&c7=0&c8=0&c9=0&c10=0&d3=0&dd3=1>; “Total U.S. Daily Newspaper Circulation,” <http://www.stateofthemediamedia.org/2010/chartland.php?msg=1&id=1316&ct=line&dir=&sort=&c1=1&c2=1&c3=1&c4=1&c5=0&c6=0&c7=0&c8=0&c9=0&c10=0&d3=0&dd3=1>.

Facebook and Twitter Users

The corresponding social network site pages of each newspaper in the sample set were tracked through links to their social network site pages on the newspapers' official websites. The numbers of their social network site subscribers were thus collected. If a newspaper had multiple Twitter or Facebook accounts, the one with the most followers/fans was picked. Data were collected from November 19th to November 23rd, 2009.

Data Processing

This study found that, excluding NYTimes.com, no website had more than 50,000 Twitter followers or more than 5,000 Facebook fans. *The New York Times* had 2,116,196 followers and 483,006 fans. Since this figure is larger than three standard deviations from the mean, *The New York Times* was considered an outlier and removed for statistical reasons. Other outliers were also identified and removed for the same reason. No outliers smaller than three standard deviations from the mean were found. (See Table 2.)

Table 2
Outliers removed from dataset

	Weekday circulation	Unique website visitors	Facebook fans	Twitter follower
The New York Times	<u>927,851</u>	<u>17,834,000</u>	<u>483,006</u>	<u>2,116,196</u>
The Los Angeles Times	<u>657,467</u>	<u>23,093,036</u>		
Mean	217,792	3,583,250	8,011	3,3937
Mean+3 times of Std. Deviation	633,096	16,073,438	178,350	765,346

Data Analysis

RQ1 asks how many newspapers are using social network sites to publish their stories and how many readers have they reached. RQ2 asks on which platform has newspapers reached the largest audience, and if newspapers can have more social network site subscribers from a larger social network site. Descriptive data, which provide basic statistics such as frequencies of the sample set, answer these two questions.

RQ3 asks the correlation between the four products (print, web, Facebook, and Twitter editions). Bivariate correlation analysis would reveal the correlation between the weekday circulation, the number of unique website visitors, the number of Twitter followers, and the number of Facebook fans. RQ4 asks the correlation between the Web edition and the social network site edition, excluding the influence of the print edition. To

answer RQ4, a partial correlation analysis was conducted, controlling for the weekday circulation.

Results

RQ1 asks how many newspapers are using social network sites and how many readers they have reached. In the sample of 74 newspapers, only three newspapers are not using a Facebook fan page, and all 74 newspapers have at least one Twitter account. The number of Twitter followers for the 74 newspapers ranged from 105 to 45,389 (mean = 5,869; S.D. = 7,569). The number of Facebook fans ranged from 2 to 6,304 (mean = 1,337; S.D. = 1,197). (See Table 3.) The results showed that almost all major newspapers are using Facebook and Twitter as new publishing platforms to deliver their news stories.

RQ2 asks on which social network site, Facebook or Twitter, newspapers reach more readers. For the 74 newspapers, the average number of Facebook fans was 1,320; the average number of Twitter followers was 5,798. The results showed that the audience size on Twitter is larger than that on Facebook (Table 3). RQ2 also asks how the audience size on social network sites compares to that of the print Web editions. To compare the number of the social network site subscription to the print edition and the Web edition, the ratio of social networking site subscribers versus newspaper circulation/website unique visitors was calculated. Table 4 shows that the number of social network site subscribers by average is only a fraction of the newspapers' print circulation (less than 3%) or of the number of website visitors (less than 1%). The newspaper with the highest Twitter follower/website unique visitor ratio (11.5%) is *The*

Austin American-Statesman, which is known for its social media strategies.⁶⁶

Table 3

Descriptive analysis of circulation, unique website visitors, Twitter followers, Facebook fans

	Mean	Minimum	Maximum	Std. Deviation	Sample size	Total
Weekday Circulation	197,290	100,617	582,844	90,683	72	14,204,940
Unique Website Visitors	2,868,087	404,010	12,126,627	2,328,796	69	197,898,012
Facebook fans	1,337	2	6,304	1,197	70	93,647
Twitter Followers	5,869	105	45,389	7,569	73	428,463

Table 4

Ratio of the social network site subscription to the print and Web edition

# of Facebook fans/weekday circulation	0.66%
# of Facebook fans/# of unique website visitor	0.04%
# of Twitter followers/weekday circulation	2.61%
# of Twitter followers /# of unique website visitor	0.17%

⁶⁶ Robert Quigley, "Social Media Reshapes Journalism," *The Austin American Statesman*, <http://www.statesman.com/opinion/insight/social-media-reshapes-journalism-613810.html>.

Table 5

Newspapers' circulation, unique website visitors and social network site subscription.

Newspaper (state/newspaper)	Weekday Circulation	Unique visitors	# of Facebook fans	Facebook/ Circulation	# of Twitter followers	Twitter/ Circulation
Alabama/Birmingham News	116,937	1,011,000	N/A	0.00%	3,972	3.40%
Arizona/Phoenix Republic	316,874	5,500,962	5,019	1.58%	6,070	1.92%
Arkansas/Little Rock Democrat Gazette	169,458	404,010	N/A	0.00%	1,732	1.02%
California/Fresno Bee	126,398	742,654	146	0.12%	1,941	1.54%
California/Los Angeles Times	*657,467	*23093036	4,924	0.75%	45,389	6.90%
California/Orange Register	212,293	3,476,143	922	0.43%	2,422	1.14%
California/Riverside Press-Enterprise	113,182	1,004,323	542	0.48%	1,893	1.67%
California/Sacramento Bee	217,545	2,919,588	731	0.34%	7,704	3.54%
California/San Diego Union-Tribune	242,705	2,628,632	537	0.22%	2,554	1.05%
California/San Francisco Chronicle	251,782	12,126,627	1,126	0.45%	1,356	0.54%
California/San Jose Mercury News	200,258	6,235,689	2,555	1.28%	2,305	1.15%
California/San Jose Mercury News Sun	225,987	**N/A	2,565	1.14%	2,317	1.03%
California/Walnut Creek Contra Costa Times	174,852	1,636,581	280	0.16%	1,538	0.88%
Colorado/Denver Denver Post	340,949	3,913,257	6,304	1.85%	8,826	2.59%
Connecticut/Hartford Courant	143,758	2,406,975	637	0.44%	2,304	1.60%
District Of Columbia Washington/Washington Post	582,844	10,395,000	1,114	0.19%	38,170	6.55%
Florida/Fort Lauderdale South Florida Sun-Sentinel	153,563	3,480,669	1,511	0.98%	5,552	3.62%
Florida/Jacksonville Times-Union	109,476	1,133,140	N/A	0.00%	1,994	1.82%
Florida/Miami Miami Herald	162,260	5,212,087	1,538	0.95%	13,340	8.22%
Florida/Orlando Sentinel	181,090	3,334,316	1,200	0.49%	9,139	4.19%
Florida/St. Petersburg Times	240,147	4,169,488	109	0.66%	105	5.05%
Florida/Tampa Tribune	152,568	4,645,957	375	0.05%	1,736	0.04%
Florida/West Palm Beach Post	114,336	721,000	1,980	0.25%	4,515	1.14%
Georgia/Atlanta Journal-Constitution	211,420	2,289,000	947	1.73%	7,797	3.95%
Hawaii/Honolulu Advertiser	113,947	1,586,465	2,132	0.45%	8,540	3.69%
Illinois/Chicago Sun-Times	275,641	3,848,203	308	1.87%	13,274	7.49%
Illinois/Chicago Tribune	465,892	9,568,029	3,404	0.11%	22,079	4.82%
Illinois/Chicago Suburban Herald	111,539	1,380,347	623	0.73%	991	4.74%
Indiana/Indianapolis Star	201,823	2,410,279	475	0.56%	7,273	0.89%
Iowa/Des Moines Register	116,876	1,333,162	3,496	0.24%	5,128	3.60%
Kentucky/Louisville Courier-Journal	176,654	1,299,344	156	2.99%	548	4.39%
Louisiana/New Orleans Times-Picayune	159,655	826,000	3,407	0.09%	7,026	0.31%
Maryland/Baltimore	186,639	4,137,815	1,635	2.13%	7,945	4.40%
Massachusetts/Boston Globe	264,105	5,050,000	1,760	0.88%	11,162	4.26%
Michigan/Detroit Free Press	269,729	4,607,230	2,251	0.67%	12,527	4.23%
Michigan/Detroit News	167,849	3,549,740	1,137	0.83%	1,068	4.64%
Michigan/Grand Rapids Press	103,422	1,415,000	1,677	0.68%	2,173	0.64%

Table 5

Newspapers' circulation, unique website visitors and social network site subscription.

Minnesota/Minneapolis-St. Paul Star Tribune	304,543	5,802,660	2,428	1.62%	4,054	2.10%
Missouri/Kansas City Star	216,226	4,022,428	898	0.80%	5,036	1.33%
Missouri/St. Louis Post-Dispatch	213,472	4,279,879	1,051	0.42%	2,627	2.33%
Nebraska/Omaha World-Herald	153,340	1,063,913	425	0.49%	510	1.23%
New Jersey/Neptune Asbury Park Press	118,868	1,232,382	793	0.28%	950	0.33%
New Jersey/Newark Star-Ledger	246,006	2,366,000	91	0.67%	1,360	0.80%
New York/Long Island Newsday	357,124	3,015,833	737	0.04%	1,913	0.55%
New York/New York Times	*927,851	*17834000	*483006	0.03%	*211619 6	228.07%
New York/Rochester Democrat & Chronicle	124,987	883,486	555	52.06%	2,839	2.27%
North Carolina/Charlotte Observer	167,585	2,185,910	1,790	0.44%	5,002	2.98%
North Carolina/Raleigh News & Observer	139,826	2,337,128	960	1.07%	2,901	2.07%
Ohio/Akron Sunday Akronbeacon Journal	137,655	**N/A	934	0.69%	764	0.56%
Ohio/Cleveland Plain Dealer	271,180	1,145,000	439	0.68%	670	0.25%
Ohio/Columbus Dispatch	183,742	1,513,234	1,714	0.16%	2,631	1.43%
Ohio/Dayton News	104,138	526,000	2	0.93%	1,528	1.47%
Ohio/Toledo Blade	104,148	618,272	361	0.00%	2,853	2.74%
Oklahoma/Oklahoma City Oklahoman	147,212	1,844,891	2,026	0.35%	3,428	2.33%
Oklahoma/Tulsa World	102,392	1,305,847	1,031	1.38%	3,024	2.95%
Oregon/Portland Oregonian	249,163	819,000	1,148	1.01%	6,622	2.66%
Pennsylvania/Allentown Morning Call	100,617	908,639	327	0.46%	1,849	1.84%
Pennsylvania/Greensburg Tribune-Review	168,218	1,740,291	691	0.32%	5,117	3.04%
Pennsylvania/Philadelphia Inquirer	361,480	5,200,886	879	0.41%	6,012	1.66%
Pennsylvania/Pittsburgh Post-Gazette	184,234	3,298,962	1,121	0.24%	2,312	1.25%
Rhode Island/Providence Journal	106,875	1,261,248	201	0.61%	2,153	2.01%
Tennessee/Memphis Commercial Appeal	142,164	1,248,773	1,174	0.19%	3,944	2.77%
Tennessee/Nashville Tennessean	131,960	1,513,224	2,362	0.83%	2,296	1.74%
Texas/Austin American-Statesman	140,602	2,111,772	1,906	1.79%	16,165	11.50%
Texas/Dallas Morning News	263,810	1,867,523	1,659	1.36%	18,202	6.90%
Texas/Fort Worth Star-Telegram	167,364	1,987,198	461	0.63%	2,276	1.36%
Texas/Houston Chronicle	384,419	7,237,897	388	0.28%	6,867	1.79%
Texas/San Antonio Express-News	152,156	1,717,173	501	0.10%	3,938	2.59%
Utah/Salt Lake City Tribune	112,585	2,021,660	295	0.33%	3,090	2.74%
Virginia/Norfolk-Portsmouth-Virginia Beach-Chesapeake Virginian-Pilot	164,454	1,302,379	1,103	0.26%	1,502	0.91%
Virginia/Richmond Times-Dispatch	133,179	1,051,899	1,441	0.67%	1,668	1.25%
Washington/Seattle Times	263,588	5,034,430	1,181	1.08%	12,506	4.74%
Wisconsin/Milwaukee Journal Sentinel	190,841	3,033,483	1,489	0.45%	2,017	1.06%
Average***	202,042	2,868,087	5,798	0.66%	1,320	2.61%
Standard deviation***	98,779	2,328,796	7,541	0.58%	1,197	2.31%
N***	72	69	70		73	

*outliers removed for statistical reasons.

**Some newspapers don't have website data in the Audience-FAX database

***Statistics after outliers removed

No Significant Relationship between the Numbers of Social Network Site Subscribers and Newspapers' Website Unique Visitors

RQ3 asks about the correlation between the four products (print, Web, Facebook, and Twitter). Bivariate correlation analysis was conducted on the four variables: 1) the weekday circulation, 2) the number of unique website visitors, 3) the number of Facebook fans, and 4) the Twitter followers. As shown in Table 6, the number of Facebook fans is positively related to weekday circulation ($r = .258, p < .5$). The number of Twitter followers is positively related to circulation ($r = .650, p < .01$), unique website visitors ($r = .515, p < .01$), and Facebook fans ($r = .426, p < .01$).

RQ4 asks the correlation between the Web edition and the social network site edition, excluding the influence of the print edition. To do so, partial correlation analysis was conducted controlling for the weekday circulation. As Table 7 shows, no significant correlation could be found between the audience size on social network sites and that on the newspapers' website. In other words, newspapers' presence on Face or Twitter does not contribute to its Website traffic, after controlling for print circulation.

Table 6
Correlation between circulation, website unique visitors, and social network site subscription

	Newspaper Circulation	Unique website visitors	Facebook fans	Twitter follower
Newspaper circulation	1	.742**	.258*	.650**
Unique website visitors		1	.234	.515**
Facebook fans			1	.426**
Twitter follower				1

** p<.01, *p<0.5

Table 7
Partial correlation of website unique visitors and social network subscription controlling for circulation

	Unique website visitors	Facebook fans	Twitter follower
Unique website visitors	1	.072	.066
Facebook fans		1	.165
Twitter follower			1

Discussion and conclusion

Most Newspapers Use Social Network Sites But Reach Small Audiences

This study shows that most major daily newspapers are using social network sites to deliver content, suggesting that publishing through such sites has become a common practice among newspapers. Although newspapers now maintain their presence not just on their own websites but also on Twitter or Facebook, the audience size on social network sites represents only a small fraction of the audience size in print (less than 3%) and on the Web (less than 1%). In other words, although many newspapers are maintaining a presence on social network sites, most have not reached an audience size comparable with the existing platforms, despite all the media hype about the potential of social media sites as news delivery channels.

Relationship between Social Network Site and Web Edition

Results of the bivariate correlation analysis showed that the correlation between the number of social network site subscribers and the number of unique website visitors is strong. After controlling for weekday circulation, however, the correlation no longer holds. The results implied that social network site subscription neither result from nor contribute to website readership. On the contrary, the print edition's influence over the Web edition and the social network site edition is more evident. Therefore, if newspapers expect to generate more advertising revenue by directing social network site users to their websites, the result implies that such strategies are not very effective. No significant relationship exists, right now, between the newspaper's audience size on social network

sites and that on its Website. Moreover, the study found that the print editions of newspapers remain the core product among the three.

Larger Social Network Sites Do Not Guarantee More Subscribers

Despite having more registered users than Twitter, Facebook does not generate more subscribers as newspapers' "fans". In other words, Twitter users are more likely to use Twitter as a news source than are Facebook users. Twitter's feature being highly focused on reading and posting tweets may account for this. Facebook, on the other hand, has various functions that users can choose from, including playing games and viewing photos. It seems likely that a number of Facebook users only play games and not read the news. In summary, larger social network sites don't guarantee more news subscribers.

Two Unique Cases: The New York Times and The Austin American-Statesman

This study excluded *The New York Times* from analysis for its being an outlier. Yet, that newspaper boasts 2.1 million Twitter followers and 4.8 million Facebook fans. These figures are very impressive, compared with the average number of social network site subscribers attained by other major newspapers. . The most popular Twitter accounts are operated by celebrities, like Britney Spears⁶⁷, Oprah Winfrey⁶⁸, and President Barack Obama.⁶⁹ Of the top 20 Twitter accounts, only two are news organizations, i.e., CNN⁷⁰ and *The New York Times*. Moreover, *The New York Times*' Twitter followers exceed its weekday circulation, making it an exception to the sample. It is fair enough to consider *The New York Times* a success story but *The New York Times* has always been a unique

⁶⁷ "Britney Spears (britneyspears) on Twitter," <http://twitter.com/britneyspears>.

⁶⁸ "Oprah Winfrey (Oprah) on Twitter," <http://twitter.com/Oprah>.

⁶⁹ "Barack Obama (BarackObama) on Twitter," <http://twitter.com/BarackObama>.

⁷⁰ "CNN Breaking News (cnnbrk) on Twitter," <http://twitter.com/cnnbrk>.

newspaper in the United States.⁷¹ Future studies should examine why *The New York Times* could effectively reach the scale on these social network sites.

Another success story is probably *The Austin American Statesman*, which enjoys the highest Twitter follower/print circulation ratio (11.5%), while the industry average is 2.61% only. *The Austin American Statesman* has been enthusiastically using Twitter to communicate with readers, said Robert Quigley, the paper's Internet Editor during his presentation at the 2009 online Journalism Symposium⁷². For instance, their journalists used Twitter to provide real-time first-hand news updates when reporting Hurricane Ike. Users also communicated with the reporters and told them exactly what they wanted to know through Twitter.⁷³ When covering breaking news events, the reporters also used Twitter to ask help from the community, e.g., soliciting photos or witnesses.⁷⁴

But not many newspapers have adopted such progressive strategies. The Bivings Group reported that about a half of the newspapers are hardly engaged in two-way communications with their followers on Twitter.⁷⁵ *The Austin American Statesman's* Twitter strategy may explain for its relative effectiveness in utilizing Twitter as an alternative news platform.

⁷¹ The average weekday circulation of the U.S. daily newspapers is only 34,541, and *The New York Times'* average weekday circulation is 927,851, see Editor & Publisher, "Circulation of U.S. Daily Newspapers by Circulation Groups"; "Journalism.org- The State of the News Media 2010," http://www.stateofthemediamedia.org/2010/online_audience.php.

⁷² "International Symposium on Online Journalism," 2009, <http://online.journalism.utexas.edu/program.php?year=2009>.

⁷³ "Austin American-Statesman Texas Social Media Awards select Shawn P. Williams | Dallas South News," <http://www.dallasouthnews.org/2010/03/austin-statesman-texas-social-media-awards-select-shawn-p-williams/>.

⁷⁴ Steve Buttry, "@statesman: A Case Study in Using Twitter on Breaking News « Pursuing the Complete Community Connection," <http://stevebuttry.wordpress.com/2010/02/23/statesman-a-case-study-in-using-twitter-on-breaking-news/>.

⁷⁵ Rindfuss, "The Use of Twitter by America's Newspapers."

With the growing popularity of social network sites such as Facebook and Twitter, newspapers have started to use these sites as alternative platforms for news delivery. Analyzing the use of Facebook and Twitter by the top 74 U.S. newspapers, this study examines the effectiveness of social network sites as news platforms. Results showed that 1) delivering news on social network sites has become a common practice of the newspaper industry but the audience size reached on social network sites is only a fraction of the audience size of the existing print and Web editions, 2) the audience size on Twitter is larger than that on Facebook, and 3) there is no significant relationship between the audience size on social network site edition and the Web edition, after controlling for the influence of print circulation. Overall, the contribution of the social network site presence to Web traffic or revenue is vague at best. Newspapers should evaluate the effectiveness of their social network strategies to develop a complementary relationship among their products on different platforms.

Limitations of This Study

This study used secondary data retrieved from the Audience-FAX database. Website usage data in Audience-FAX was reported by different organizations. Hence, the data wasn't all collected from the same time period. For example, comScore reported data from the six months ending September 2009. Nielsen reported data collected during the three months ending May 2009. Newspapers' website traffic spikes when big news breaks, so collecting data from different periods may lead to very different results. Michael Jackson's death in June 2009 caused a spike in web traffic but is not included in Nielsen's data.

In addition, this study addressed the correlation between circulation, the number of website unique visitors, and social network site subscribers. The existence of a correlation, however, doesn't guarantee a causal relation. To examine causality, i.e., whether a social network sends readers to a newspapers' website, we must consider the following: 1) the sequence of change in number of unique website visitors and social network site subscribers, 2) correlation between the number of unique website visitors and social network site subscribers, and 3) exclude unseen factors that influence the two jointly. Finally, Twitter was established in 2006. Newspapers have undertaken social network site marketing only recently. Hence, it's still too early to conclusively determine the potential of these social network sites to bring large numbers of readers to the newspapers' websites.

Also, this study hasn't examined at the micro level how each newspaper takes advantage of social network sites. Future studies may analyze special cases such as *The New York Times* and *The Austin American-Statesman* may identify effective strategies applicable for the newspaper industry.

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