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Abstract
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Research

page 6 . . . . . Tackling Structure and Format — The 'Great Unknown' in Professional Blogging
Owen Roberts & Jim Evans

page 15 . . . . . Agriculturists' Personal and Business Use of Online Communication Tools
Kelsey Shaw, Courtney Meyers, Erica Irlbeck,
David Doerfert, Katie Abrams and Chris Morgan

page 30 . . . . . The Impact of Local: Exploring Availability and Location on Food Buying Decisions
Laura M. Gorham, Joy N. Rumble and Jessica Holt

page 44 . . . . . Exploring Ways Social Media Data Inform Public Issues Communication:
An Analysis of Twitter Conversation during the 2012-2013 Drought in Nebraska
Adam Wagler and Karen J. Cannon

page 61 . . . . . U.S. Agricultural Commodity Organizations' Use of Blogs as a Communications Tool
Madeline L. Moore, Courtney Meyers, Erica Irlbeck, and Scott Burris

Journal of Applied Communications
Volume 99 • No. 2 • 2015

Journal of Applied Communications, Vol. 99, Iss. 2 [2015], Art. 7

Tackling Structure and Format — The 'Great Unknown' in Professional Blogging

Owen Roberts & Jim Evans

Abstract

This article addresses a gap in guidelines for those who blog professionally. It does so in a way that uniquely serves extension and research communicators. Many types of blogs have been used and described. Plenty of generic advice is available about writing blogs. However, little of it involves how to organize them. In this analysis, for example, advice about structure and format of blogs made up less than 3 percent of the 315 tips identified. A review of journalism literature identified some of the practices used in structuring news and information for media. The review also identified formats for organizing several other cousins of blogs. This article introduces a unique hybrid format for blogs, based on experiences of one of the authors. It involves a seven-step process that incorporates elements of objective reporting (explaining) with those of subjective expression (stimulating and advocating).

Key Words

Blogs, blogging, extension communications, research communications, writing skills

Introduction

Online journals, popularly called web logs or blogs, have become extremely popular among social media writers. About 152 million blogs exist, with nearly 173,000 added every day — a new one every half second (Gaille, 2013, p. 1). Blogs are a versatile and accessible medium, offering participants (bloggers) appreciable flexibility to express themselves electronically through words, photos, video and voice. Publishing platforms such as WordPress typically offer free software, a feature that represents one of the most basic tenets of social media — that is, accessibility. Anyone with access to a computer can blog, and likewise, anyone can respond to others' blog posts, creating an opportunity for dialogue and understanding. Bloggers help address the insatiable hunger for knowledge and opinion, and they have made blogs an ingrained part of the Internet.

Many types of blogs are at hand

Types and topics of blogs vary greatly. For example, sample lists include types such as personal blogs (often featuring interests, families, travel, politics, hobbies, other), corporate and organizational blogs (often for internal or external communications in support of organizational culture, marketing, branding, public relations, programming and other functions), school blogs (for students and teachers to collaborate), non-profit blogs (often for creating awareness about causes and generating support), science blogs (translating scientific information into lay terms and interests), political blogs (often for legislators, political parties, activists and others to connect with constituencies), military blogs (often for members of the military to report experiences and stay in touch with families), sports

The lead author presented a preliminary version of this report at the 2014 Institute of the Cooperative Communicators Association, Pittsburgh, Pennsylvania, June 2, 2014.

blogs (often used by teams, athletes and fans to share news, reactions and interests) and how-to blogs (often to share tips and reviews about gardening, music, health, food and nutrition, mobile phones, other) (WordPress, Wikipedia).

Blogs about farming and agriculture range across categories such as agricultural news and information, sustainable farming, farming big and small, international agriculture, livestock and ranching, agricultural science, and agricultural politics and policy (50 best farm and agriculture blogs, 2010; Jones, Kaminski, Christians & Hoffmann, 2011). Some of these blog types echo an early description of purposes of editorials. In a 1928 book, *Country Journalism,* Allen described purposes such as giving information, commendation, correction, interpretation and local angle (p. 194-206).

How the blogging job soon gets pesky

Key questions arise quickly in the blogging process. It is no accident 60 to 80 percent of blogs are abandoned within a month after they begin (Sedeke & Arora, p. 5). These questions include how to get started, how to maintain momentum and later, how to improve. Usually, passion for the topic at hand will prompt the creation of a blog. But once a format has been selected from the thousands of themes available, a unique and representative title created, and an inviting introduction written, the pesky task of regularly populating the blog with informative posts may prove daunting to many bloggers. Typically, bloggers are untrained writers. They may be skilled within the domain that drives their passion (i.e., animal welfare, crop protection, environmental stewardship, human health, etc.), but journalistically, they could be unprepared for or unfamiliar with how to generate content constantly. Offering a structural template for blog posts may help guide these bloggers and others who are searching for a consistent, effective editorial format for their posts.

Plenty of generic advice is available about writing blogs

Hundreds of tips are available for those who wish to blog in whatever settings and for whatever purposes — as moms, educators, legal counselors, marketers, you name it. A tiny sampling of online counsel includes advice such as:

- Write about something you love and are good at
- Find your own voice and style — be unique
- Let your readers get to know you — be vulnerable
- Define the topics
- Link like crazy, but keep the focus on your blog
- Make headlines snappy to help your blog stand out from the rest of the average titles
- Vary your topics because a good blog needs variety
- Use hyperlinks and lists
- Produce content that is rich in keywords
- Keep it short, concise
- Be factual, up-to-date, informative, straightforward
- Ask for reactions, invite questions, start meaningful discussions, acknowledge feedback

These examples come from "how to" information in 15 blogs and journal articles identified in the reference section that follows.

Not much advice involves structure and format

Among all of the tips, one finds relatively few about how to organize and structure a blog. In this analysis, advice about structure and format made up less than 3 percent of the 315 tips identified. Furthermore, those few tips were quite general, such as "Format text for clarity and readability" (101 Essential Blogging Skills, 2007, p. 1). Another example advised, "Start off with a spectacular title to draw them in. Then make lists, bullet points, subheadings, and add pictures. Anything you can do to keep their attention and not have your posts look like big chunks of unappealing text …" (3 Key Points to Perfect Your Blogging Skills, n.d., p. 1).

Gaining insight from journalism methods

Journalism literature features a long tradition of experience and recommendation about structuring news reports. Also, it includes advice that speaks to structure and form in settings akin to blogging, especially in terms of writing editorials. One structure editorial writers have long used involves (1) Introduction — state subject, explain issue, define problem; (2) Body — provide details, alternatives, conflicting viewpoints; and (3) Conclusion — offer opinion, suggested action, call for reader involvement (Fink, 2003, p. 291).

Beyond that, editorial writers operate across a considerable range of formats and structures. For example, Fink has offered this basic set of ingredients for writing editorials: (1) Stimulate; (2) Explain; and (3) Advocate (p. 281). Scanlan's review of processes used by award-winning editorial writers cited guidelines such as:

- Use chronology for clarity. Get down to the essential facts, then organize them, usually in a time sequence, so you can see what flows from what.
- One story, one theme. An editorial should be a 300-word essay.
- Leads are more important than ever. Strong writing, freshness, something out of the ordinary helps guarantee they'll read the next sentence.
- The paragraph has power, as a thought and as a pause, marking the cadence for readers.
- Endings matter. They are the punctuation mark on your opinion, on what you think and why. (2004, p. 2-4)

Huang is among those who suggest organizing information, in part, through response to the question, "How would you tell this story to a friend?" (Huang, 2011, p. 1). The approach is akin to what is described as the "Aunt Betty strategy" of sitting down to have a conversation. Other formats cited in journalism literature have been given names such as hourglass, champagne glass, broken line, stack of blocks, the circle, circling back, bookending and narrative line (Clark, 2011; Lanson, 2011).

Format advice from other cousins of blogs

Who are the journalistic cousins that incorporate some the personal characteristics of blogging?

At one level, they include venues such as op eds, columns, commentaries and testimonials that feature points of view rather than objective reporting. They involve the writer personally, but often lack the interactive nature of blogs. They engage many kinds of structure, sometimes within frameworks such as (1) problem-solution, (2) risk assessment and management, and (3) reviews of costs and benefits. Within the advertising sector, they often emphasize leading with benefits, then following up with features that provide those benefits and closing with calls for action.

Other cousins place more emphasis on process than on individual postings and points of view.

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They share with many kinds of blogs the intent to encourage interaction and engagement in decision-making for shared purposes. For example, processes used by Extension Services of universities and government agencies throughout the world share similarities with blogging, in an important sense. At local and other levels, they take steps to involve and empower citizens and other stakeholders in regard to countless topics. The structure of this process involves efforts to identify needs, problems and opportunities, analyze them, then develop strategies and programs for addressing them. Beyond the mission of most blogs, Extension Services then continue into program development, program delivery and evaluation. Extension communications may or may not use advocacy.

Service journalism represents another cousin of blogs. Known for moving beyond the usual informative function of journalism, it is action-oriented and features advice as well as news (Autry, 2000; Lockhart, 2008). Rooted in magazine journalism, today it extends into the digital world, as well, to include the interactive characteristics of blogs. It shares with blogs the writer's involvement in providing information, experiences and recommendations that help audiences make informed decisions. For example, Wallace notes the difference between writing an article that examines the various sides of an issue, such as genetically modified food additives, and writing an article that helps the reader choose whether to consume and/or support such things (2012, p. 2). Digital forms of service journalism are often interactive. Articles follow many of the same formats as for news and feature articles.

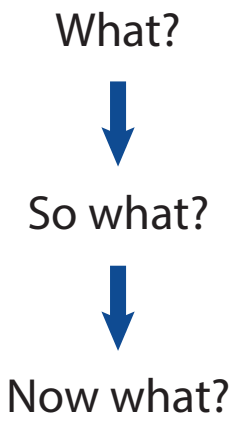
Filling a gap with a unique hybrid format for blogs

Our combined experience in writing blogs and examining research about social, interactive media prompts us to suggest a unique hybrid format for blogs. One of the authors has used it successfully in a blog, "The Urban Cowboy," that operates at the intersection of urban and rural interests. Here are the essentials of a simple, basic approach to organizing and formatting blogs.

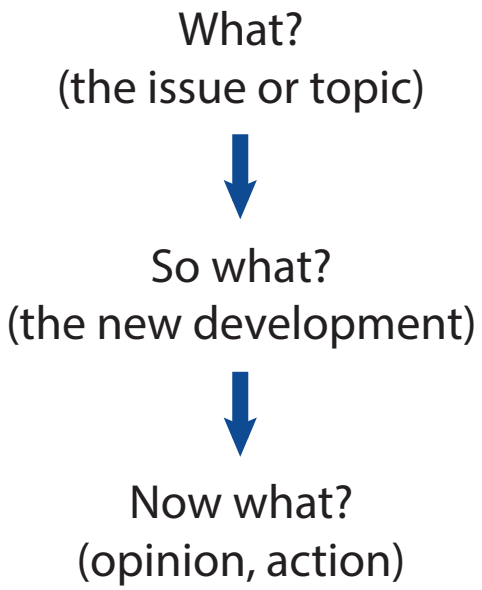
1. Think in terms of three-paragraph blog entries with one or two photos or a video.
2. Make each paragraph no more than 100 words long. So, the three-paragraph post will be about 300 words long.
3. Use one theme per post.
4. Use good editorial writing principles. Incorporate information that stimulates, explains, and advocates.
5. Commit the first paragraph to stimulating. Use it to identify "what" is involved in the theme of the post. What is the issue? Explain it in journalistic, objective style.
6. Commit the second paragraph to explaining. This information addresses "so what?" aspects of the topic. What is the new development in the issue? Why is it timely? Why does it deserve attention? Explain it in journalistic, objective style.
7. Commit the third paragraph to advocating. Use this paragraph to provide information that addresses the "now what?" aspects of the topic. What is the call to action? What should be done next, and by whom? This paragraph takes subjective rather than journalistic form.

This blogging model combines subjectivity, objectivity, news, information and opinion in a concise three-paragraph format. It arose in part from the approach to information sharing by former Canadian agriculture and agri-food minister Lyle Vanclief, who held the office from 1997-2003. Facing a heavy meeting and delegate schedule, he asked his ministerial office staff for clear, succinct briefings, based on three questions: What? So What? and Now What? He needed to know the "Coles Notes" version of the issue or topic to be discussed (what?), the new development that made

it an issue or topic for his attention (so what?) and finally, a suggested course of action (now what?). Diagrammatically, Vanclief's approach could look like this:



The approach lends itself well to the structure and content of agriculture-related blog posts. Location of blogs on the World Wide Web means they are accessible to everyone, not just those who are familiar with agriculture or a specific commodity, issue or topic in agriculture. That means beginning the post with a discussion about the topic or issue, to establish a common understanding of the matter, before launching immediately into the new development that has made it topical. Further, a blogger should present in a post the issue or topic and the new development before offering an opinion about it. In that way, the reader gains an objective introduction to the matter before the blogger comes forward with a (subjective) opinion about it. Using Vanclief's approach, the blogger's opinion is stated after the facts. In keeping with one of the tenets of persuasive writing, that opinion may include a call to action. As a result, the "what – so what – now what" approach is complete. Diagrammatically then, it would look like this:



Such an approach fits well into a three-paragraph blogging model, with one paragraph each dedicated to what, so what, and now what. The first paragraph, in which the issue is presented, is the "what" paragraph. The second paragraph, where the new development related to the issue is ex-

plained, is the "so what?" paragraph. And finally, the third paragraph, in which the writer invites feedback by asking a question or stating a call to action, is the "now what?" paragraph. This paragraph, and the comment box that follows it WordPress blog templates, reflects one of social media's most distinguishable features: the ability for everyone to have a voice and to engage in dialogue.

Two examples of how this approach looks in practice can be found in these blog posts:

Reduce food waste to keep costs low, says report

Source: Urban Cowboy (www.urbancowboy.ca)
By Owen Roberts
July 29, 2014

As a society, we spend a lot more time and energy dealing with the waste we produce than preventing it. According to a new report, Developing an Industry-Led Approach to Addressing Food Waste in Canada, that's not the right approach to Canada's $27-billion food waste problem. Everyone in the food chain is affected, from consumers to farmers. Farmers lose significant profits by paying to produce food that gets thrown away.

In fact, up to 40 percent of what farmers produce gets thrown away. That means there's a lot of room for improvement to keep money in grower's pockets to ultimately keep the price of food in check. According to Dr. Martin Gooch, the report's co-author, food waste is highest during fruit and vegetable season, when consumers purchase in bulk to save money but rarely end up consuming everything. Consumers purchase more and no longer aim to can or preserve food to stretch out their use period. The kitchen is where most food is wasted, with over half of food waste attributed to consumers.

If people are going to waste less food they need guidance such as recipes and options, and smaller sized packages even if they're less economical. I think people would rather pay more for a smaller quantity and use it all than pay for a larger amount and watch it rot. Advanced storage options for some commodities to lengthen shelf life are being researched with support from the Ontario government at the University of Guelph. You can read the full report at http://goo.gl/mMtBHj.

A battle won in Washington. A white flag to win the war.

Source: 50 Shades of Hay (http://50shadesofhay.wordpress.com/)
By Madeline Rodrigue
November 11, 2013

Approximately 90 per cent of corn and soybeans in the United States are genetically modified. These GMO crops are incorporated into many products including an estimated 80 per cent of all processed foods. Although there is scientific consensus that GMOs are safe for human consumption, anti-GMO lobbyists warn consumers of phantom consequences. The most recent anti-GMO campaign is based on consumers' "right to know" what's in their food.

On November 5, Washington State's Initiative-552, which would require mandatory labeling

of productions containing GMOs, was rejected in the polls by nearly 100,000 votes. Similar legislation failed in California last year. In both cases, the Grocery Manufacturers Association and large biotech companies like Monsanto and DuPont Pioneer spent millions of dollars to avoid labeling.

This paints a bad picture for consumers. Mark Lynas, GMO advocate, describes the right to know campaign as "bad science but good politics." The more biotech companies fight product labeling, the shadier they appear. Too often transgenic technology is lumped together with Big Ag policy. These are not synonymous. The bad reputation of Big Ag politics taints the numerous benefits of GMOs in the eye of the consumer. It's important that consumers recognize transgenics as a technique, rather than an ingredient. Establishing trust between consumers and biotechnology might come down to labeling and transparency, whether or not it is warranted by science. The challenge is creating a label that is not cautionary, but rather one that consumers feel comfortable with and biotech companies willingly provide because they have nothing to hide.

Summary and conclusions

The analysis and techniques presented here address a significant gap in guidelines for bloggers to use in organizing their posts. Most existing advice about blogging centers on writing styles. The unique hybrid structure presented here offers a simple way for bloggers to integrate factual information with current developments, personal perspectives and advice. This approach to structuring blogs has proved useful for students, most of whom are first-time bloggers. It helps them organize their thoughts, develop their arguments, and back up their opinions.

Leading with a journalistic, fact-based style to introduce the topic objectively can be especially useful for communicators who work in settings of science, research, extension and education. This introduction opens the way for discussing new developments, and ultimately, offering opinion and advice in the "Now what?" section of a blog post.

This structure for blogging also offers special potential and value in other settings and for other reasons:

- It can be useful for communicators in commercial settings such as public relations and other forms of marketing communications. It encourages bloggers to base their perspectives on what is known, factual and believable to readers.
- It fits nicely with risk communications across a wide variety of issues related to food, agriculture, natural resources, and life and human sciences.
- It encourages completeness, conciseness and easy flow of thought that can increase readership.
- It heightens authority and credibility of bloggers by positioning them as writers whose subjective views extend logically from a factual base.

Essentially, this structure can be helpful for anyone who needs help concisely explaining a complex topic to a broad audience as well as attempting to increase knowledge and influence opinion and action.

Further research could be based on suggestions, examples, questions and feedback about this approach to organizing blogs.

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References

7 essential writing skills for bloggers. (2011). Retrieved from http://www.writing-blogging-tips.com/index.php/2011/01/7-essential-writing-skills-for-bloggers/html/

15 essential blogging skills. (n.d.). Retrieved from http://tzuvelli.com/15-essential-blogging-skills/

50 best farm and agriculture blogs (2010). Retrieved from http://www.onlinedegrees.net/blog/2010/50-best-farm-and-agriculture-blogs/

101 essential blogging skills (2007). Retrieved from http://www.skelliewag.org/101-essential-blogging-skills-67.htm/

Allen, C. L. (1928). *Country journalism*. New York: Thomas Nelson and Sons. 504 pages.

Autry, James (2000). Service journalism: Carving our own legitimate niche in communications. Chapter in *Cooperative Communicators Association Handbook*, Cooperative Communicators Association, Lubbock, TX.

Blog writing tips and blogging advice: mastering blog writing skills. (n.d.) Retrieved from http://www.which.co.uk/technology/archive/guides/blog-writing-tips-and-blogging-advice/mastering-blog-writing/

Boost your blogging skills with 7 simple steps. (2011). Retrieved from http://www.socialmoms.com/tech/boost-blogging-skills-7-simple-steps/

Clark, Roy Paul (2011). How to shape and structure stories in meaningful ways. Retrieved from http://www.poynter.org/how-tos/newsgathering-storytelling/writing-tools/146779/live-chat-today-how-to-shape-structure-stories-in-meaningful-ways/

Fink, Conrad J. (2003). *Writing to inform and engage: The essential guide to beginning news and magazine writing.* Cambridge, MA: Westview Press. 385 pages.

Gaille, Brandon (2013). How many blogs are on the internet? Retrieved from http://www.wpvirtuoso.com/how-many-blogs-are-on-the-internet/

Huang, Tom (2011). 6 questions that can help journalists find a focus, tell better stories. Retrieved from http://www.poynter.org/how-tos/newsgathering-storytelling/131491/6-questions-that-can-help-journalists-find-a-focus-tell-better-stories/

Improve blog writing skills. (2012). Retrieved at http://crafterminds.com/2012/01/improve-blog-writing-skills/

Jones, Marcus A., Kaminski, John E., Christians, Nick E. & Hoffmann, Mark D. (2011). Using blogs to disseminate information in the turfgrass industry. *Journal of Extension*. Retrieved from http://www.joe.org/joe/2011february/rb7.php/

Journalism 2.0: Good tips on blogging. (n.d.) Retrieved from http://www.j-learning.org/index.php/briggs_blog/print/good_tips_on_blogging/

Kratz, Harrison. (2012). 5 tips to creating a great professional blog. Retrieved from http://www.careerealism.com/creating-professional-blog/

Lanson, Jerry (2011). *Writing for others, writing for ourselves: Telling stories in an age of blogging.* Lanham, Maryland: Rowman and Littlefield Publishers, Inc. 183 pages.

Lockhart, Jessica (2008). 5 reasons to love service journalism. *Ryerson Review of Journalism*. Retrieved from http://www.rrj.ca/m4129/

Millard, Elizabeth. (2012). Sharpen your blogging skills with a few simple tactics. Retrieved from http://www.legalnews.com/ingham/1357269/

Odden, Lee. (2012). 5 of the most important content and social media tips for a successful business blog. Retrieved from http://www.toprankblog.com/2012/05/5-business-blogging-tips/

Scanlan, Chip (2004). Lessons learned: Exploring the process of award-winning editorial writing. Retrieved from http://www.poynter.org/how-tos/newsgathering/storytelling/chip-on-your-shoulder/23292/lessons-learned-exploring-the-process-of-award-winning-editorial-writing/

Scocco, Daniel (2006). 101 blog tips I learned in 2006. Retrieved from http://www.dailyblogtips.com/101-blog-tips-i-learned-in-2006/

Sedeke, Kristina & Arora, Payal (2013). Top ranking fashion blogs and their role in the current fashion industry. *First Monday*, 18(8): 1-6. Retrieved from http://journals.uic.edu/ojs/index.php/fm/article/view/4314/3739/

Stansberry, Katie. (2011). 10 tips for the education blogger. *Learning and Leading with Technology*, 39(3): 36-37.

Ten tips for writing a blog post. (2005). Ten tips for writing a blog post. Retrieved from http://www.problogger.net/archives/2005/12/30/ten-tips-for-writing-a-blog-post/

Wallace, Mark (2012). Maybe all journalism is service journalism. Retrieved from http://thelastweblog.com/20120911/maybe-all-journalism-is-service-journalism/

Wikipedia (n.d.). Types of blogs. Retrieved from http://en.wikipedia.org/wiki/blog/

WordPress.com (n.d.) Types of blogs. Retrieved from http://en.wordpress.com/types-of-blogs/

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Agriculturists' Personal and Business Use of Online Communication Tools

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Abstract

New programs and efforts are being promoted to help American farmers and ranchers succeed in their efforts, both in their daily operations and in their attempts to reach consumers. Online communication tools may be one way agriculturists can share their stories and market directly to these audience members, but much is unknown regarding the extent to which these tools are being implemented. The purpose of this study was to determine agriculturists' current use of online communication tools for both personal and business purposes. The target population for this study was members of organizations that serve young and/or beginning farmers and ranchers in three states. An online survey was administered electronically to members of seven organizations, and 185 completed questionnaires were analyzed. The findings indicated websites and Facebook are the commonly used online communication tools for personal and business use. Many tools are not used at all for either purpose. A significant correlation was found between the use of online communication tools in personal and business settings. Additional research is needed to further explore agriculturalists' use of these tools for both purposes.

Key Words

Social media, online communication, farmers, ranchers

Introduction and Need for Study

During the past century, the U.S. population has moved from more rural areas to fast-growing urban centers. Since 1900, the number of American farms has decreased by 63% while the average size of remaining farms increased by 67% (Dimitri, Effland, & Conklin, 2005). Now, less than 2% of Americans are engaged in farming as their primary profession. Currently, more than 3 million farmers operate more than 2 million farms in the United States (National Agricultural Statistics Service [NASS], 2014a).

To encourage the growth of American agriculture, the U.S. Department of Agriculture offers exclusive programs to those designated as beginning farmers or ranchers (Ahearn & Newton, 2009). According to the USDA definition, "beginning farmers or ranchers" must have less than 10 years of farming experience. The 2012 Census of Agriculture identified 522,058 farmers or ranchers who have been on their current operation less than 10 years, which was down 20% from 2007 (NASS, 2014b). Despite the drop in overall numbers, at least a quarter of all farm operators can be considered a beginning farmer or rancher, and these farms tend to have younger operators than the national average age of farmers (58.3 years). The average age for those on their farms five years or less was 46.9 years. For those with six to 10 years of experience on their farms, the average age was 50.8 years (NASS, 2014b).

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The American Farm Bureau Federation (AFBF) also has a program to support farmers and ranchers who are younger, specifically between the ages of 18 and 35. The AFBF Young Farmers & Ranchers program has the goal to help this generation succeed in their agricultural pursuits. The 2012 Census of Agriculture identified that of farmers with one to five years of experience, 24% less than 35 years old, and 14% of beginning farmers and ranchers with six to 10 years of experience were less than 35 years old (NASS, 2014b).

Agriculturalists must continue to explore innovative technologies and new ways to interact with potential consumers. One way to accomplish this is the use of direct marketing, which includes social networking, email newsletters, direct mail pieces, online commercials, and a website or blog. These pieces are ideal for smaller businesses that aim to speak directly to the client or potential customer and eliminate the middleman. It also is cheaper overall and allows business owners to have more control over their messages (Bullock, 2011).

Many smaller-scale or alternative farmers tend to utilize direct marketing techniques to promote their business or products. Alternative agriculture refers to operations that produce some sort of "nontraditional crop, livestock, or other farm product; service, recreation, tourism, food processing, forest/woodlot, or other enterprise based on farm and natural resources; or unconventional production system such as organic farming or aquaculture using direct marketing or other entrepreneurial marketing strategy" (Gold, 2007, para. 10). Abrams and Sackmann (2014) found alternative farmers in Illinois spent most of their time online to find information about farming, to interact with current or potential customers, and to find customers or potential customers.

According to a 2013 AFBF online survey of young farmers and ranchers, 92% use a computer in their farming operation and 94% have access to the Internet, with nearly 80% reporting regular use of mobile devices such as tablets and smart phones (AFBF, 2013). In the 2015 AFBF survey of young farmers and ranchers, the majority (75%) considered communicating with consumers their responsibility and they use several methods to accomplish this, including social media platforms (AFBF, 2015). Emerging online media, sometimes referred to as new media, encompass information distributed over the Internet, including websites, streaming audio and video, and social media (Ruggiero, 2000). Nearly three-quarters (74%) of the young farmers and ranchers use Facebook, 23% use Twitter, 19% have a farm webpage or blog, and 14% post videos of their farms or ranches to YouTube.

Hoffman (2009) said utilizing social media in agricultural endeavors has become a requirement, not an option, and by using these tools, farmers and ranchers have the potential to impact the public's perception of agriculture. "Consumers are more willing to trust farmers than companies" (Wisconsin State Farmer, 2011, para. 14), so farmers and ranchers should be encouraged to connect with customers and consumers (Hoffman, 2009). Doerfert, Graber, Meyers, and Irlbeck (2012) recommended the Internet and social media should be closely monitored and reevaluated as their role evolves within the agricultural industry.

Literature Review/Theoretical Framework

In the past 20 years, the media landscape has changed drastically. Media users now have many more choices as to where, when, and how to obtain information. In 2013, 74.4% of American households had access to the Internet (File & Ryan, 2014).). Comparatively, 52% of those in rural areas have access to the Internet (Pew Research Center, 2004), while 67% of those living in urban areas are online. Also, rural users are shown to be participating in many of the same online activities as their urban counterparts, including using email, using search engines, and pursuing hobbies. Most Americans (59%) access the Internet via a wireless device (Smith, 2010). The most popular tool is

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a laptop computer, which 47% of adults have used, and 40% of all adults use their smart phone to go online (Smith, 2010). Age is not proving to be a factor inhibiting online activity. Zickuhr and Madden (2012) found 53% of seniors over the age of 65 use the Internet or email in some capacity. However, social media have a greater appeal to younger audiences (Telg & Barnes, 2012), with 75% of 18- to 24-year-olds and 57% of 25- to 34-year-olds currently utilizing some sort of social media outlet (Lenhart, 2009).

Duggan and Brenner (2013) said 67% of Internet users currently use some sort of social media tool. Social media sites are "web-based services that allow 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" (Boyd & Ellison, 2007, p.1). Social media technologies allow user-generated content to not only be shared boundlessly but also allow for multiple influences on a community of learning (Pfeil, Arjan, & Zaphiris, 2009). When users are able to read, respond, and interact with comments posted by other users, these tools usually result in greater engagement, improved retention, and a higher likelihood of behavior change.

Social media allow companies of all sizes and structures to engage in timely and direct end-consumer contact at relatively low cost and higher levels of efficiency than can be achieved with more traditional communication tools (Kaplan & Haenlein, 2010). Unfortunately, this can be very time consuming for the expert who is facilitating these interactions (Anderson-Wilk, 2009). Typically, agricultural organizations operate with a one-person communications staff with small budgets, so it makes it more difficult for these organizations to explore new technological innovations (Bullock, Lockaby, & Akers, 2002). To maintain a successful social media presence, an organization or group must have an active and committed group of supporters (Rigby, 2008).

The theoretical framework for this study drew upon three theories: Rogers' (2003) diffusion of innovations theory, the technology acceptance model (Davis, 1989), and uses and gratifications theory (Katz, Blumler, & Gurevitch, 1973). Rogers' (2003) diffusion of innovations theory explains how new ideas, techniques or items are dispersed through a series of channels, following a strict sequence of adopters: innovators, early adopters, early majority, late majority, and laggards. The theory focuses on the likelihood of adoption for an innovation based on a number of factors, including evaluation of the innovation's attributes: relative economic or social advantage, compatibility with existing values, complexity of the idea, trialability, and observability.

This theory has been applied in a variety of disciplines (Rogers, 2003). More recently, diffusion of innovations has been cited in numerous studies regarding the adoption of emerging online media. The theory has been used to identify who is utilizing specific technologies (Peng & Mu, 2011) as well as why some are leaving specific platforms in favor of others (Coursaris, Yun, & Sung, 2010). The adoption rates of social media is a topic of particular interest, especially among specific groups, including university communicators (Kelleher & Sweetser, 2012), nonprofit organizations (Waters, 2010), and online election campaigns (Gulati & Williams, 2011).

Within agricultural communications, Rhoades and Aue (2010) found agricultural editors and broadcasters could be classified in several adopter categories in terms of their social media use when compared to traditional media. It was determined that it was important for users to frequently update and interact using these tools or, as Rogers (2003) suggested, they may not see the full benefit of utilizing these innovations. Through a series of focus groups, Telg and Barnes (2012) found members of Florida's Young Farmers & Ranchers program did not implement social media tools within the organization because they did not agree on Rogers' (2003) perceived attributes of innovation. The

researchers suggested the organization develop a better social media strategy to help successfully support the organization through the organizational change process to more thoroughly integrate social media in their communication efforts.

An additional theory in this framework is the technology acceptance model, which is based on the Theory of Reasoned Action (Fishbein & Ajzen, 1975). This theory examines how attitudes and beliefs toward technology can influence eventual decisions to use the particular technology (Davis, 1989). Additionally, various external factors have the potential to influence behavior decisions (Davis, 1993). Researchers have utilized this theory to study adoption of technological advances such as email, voicemail, word processing, and the Internet (Lederer, Maupin, Sena, & Zhuang, 2000). Lee, Kozar, and Larsen (2003) said more research is needed to test the technology acceptance model with multi-user systems, such as social media and other online communication tools. Additionally, as new online communication tools develop, it is vital to test the model for these new tools to ensure vitality and usefulness of the model in the face of innovation. Irani (2000) established the theory's usefulness in agricultural communications and Internet applications and advocated for more application of the model in the agricultural industry.

The third theory in this study's theoretical framework was uses and gratifications theory (Katz, Blumler, & Gurevitch, 1973), which addresses how people choose particular media to fulfill certain needs they expect to be met (Joinson, 2008). This idea also extends to groups, businesses, and society as a whole. Although typically used to address choices in traditional media such as print, radio, and television, the theory has been recently extended to types of electronic media, including social media. Due to this shift, Bumgarner (2007) insisted the role this theory plays in the lives of people is even more relevant than in previous instances. The uses and gratifications theory serves as a useful explanation for why people leave traditional media in favor of emerging online media — these new forms of media are filling the same social and psychological needs (Ruggiero, 2000). Many uses and gratifications of emerging online media are very similar to those of long-standing media types (Eighmey & McCord, 1998). Users still have a desire to learn about what is going on around them and, in some cases, simply entertain themselves using either new or older media tools. Although general media use of agriculturalists has been researched focusing mainly on traditional media sources (Doerfert et al., 2012; Ruth-McSwain, 2008), there is yet to be extensive research focusing on the social media uses and gratifications of this distinct set of users. Additional research is necessary to further explore how and why agriculturists use emerging media.

Purpose/Research Questions

The purpose of this study was to determine agriculturists' use of online communication tools. The following research questions were used to achieve this purpose:

1. What is the extent of respondents' personal use of online communication tools?
2. What is the extent of respondents' business use of online communication tools?
3. What relationship exists between online communication tool use for personal and business purposes?

Methods

To answer the research questions, researchers used a quantitative, descriptive online survey research design. Online survey methodology was appropriate because of trying to assess the online communication habits of farmers and ranchers, not simply if they were online or not, which previous studies

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have already determined (AFBF, 2015; NASS, 2014a.). Abrams and Sackmann (2014) used this research design to determine the use and influence of online communication tools on Illinois farmers' social capital and business viability.

Qualtrics survey software was used to administer an online instrument to a sample of farmers in three states. These states were chosen based on participation in a USDA grant project to assist beginning farmers and ranchers in their online marketing needs. Due to the grant's purpose, specific agricultural organizations were purposively selected within each state that represented members who could benefit most from a direct-to-consumer marketing program to help them increase awareness of a product or service they provide. These organizations typically served beginning and/or younger farmers and ranchers. Additionally, each of the organizations had a member database through which a program director could contact the members to distribute the survey link. Members of seven organizations were surveyed for use in this research.

Questions for this instrument were modified from an instrument used to assess social media use and knowledge (Abrams & Baker, 2012). The questionnaire consisted of four sections measuring agriculturists' current use of social media tools; self-perceived levels of importance and competence completing various tasks using online communication tools; potential barriers and motivations for attending social media training; and demographic questions. The updated questionnaire was evaluated by a panel of experts consisting of agricultural education and communications faculty representing each of the participating states. This manuscript reports the results of the agriculturalists' current use of online communication tools and demographics. These online communications tools were selected based on popularity of use. Website, Facebook, Google+, Twitter and YouTube were listed individually. Within the response options that represented a categories of communication tool options, respondents were given examples – Photo Sharing Website (i.e. Flickr, Shutterfly), Blogging Website (i.e. WordPress, Blogger), Social Bookmarking (i.e. Digg, StubleUpon, Pinterest), and Social Media Management Tool (i.e. HootSuite, Tweetdeck). Respondents also could provide other responses if they used something that was not listed.

Each state had a separate time period for its survey administration, staggered across a four-month period from July to October 2012. Qualtrics survey software stored the survey and all the responses securely. A representative for each organization sent each round of emails with the survey link to individual members of the organization. In total, 286 respondents started the questionnaire, but after examination, 101 had to be removed due to incompleteness resulting in 185 usable responses from all three states (64.7% completion rate). It is not possible to calculate a response rate for the survey because researchers were not provided with a total number of members or list of those emailed the survey link for the various organizations.

The data from each set of surveys were exported into SPSS® version 20.0 for Windows™. To determine similarity between the respondents across multiple states, crosstabulations, chi-square, and ANOVAs were used to compare demographic characteristics. Frequencies, standard deviations, and means were calculated for the entire group of respondents.

Results

More males (n = 100, 54.1%) responded to the study than females (n = 71, 38.4%); 14 did not provide a response for gender. Respondents also were asked to identify their year of birth. Of the 169 who responded to this question, the mean age was 39 years (SD = 13.74), and the median age was 33. The oldest respondent was 90 years old, and the youngest was 18.

Various agricultural industries were represented in the group of respondents. The two most frequently selected types of operations were cattle production (n = 78, 42.2%) and grain and oilseed farming (n = 76, 41.1%). The least frequently indicated type of agricultural operations were horticulture (n = 10, 5.4%) and dairy cattle and milk production (n = 8, 4.3%). Respondents were able to select more than one type of operation, and the majority (n = 112, 66.7%) did select two or more of the listed operation types while only 33.3% (n = 56) identified only one of the operation types.

The majority of respondents (n = 107, 57.9%) had owned their operation for less than 10 years, which is the USDA's classification of a beginning farmer or rancher. Many (n = 54, 29.2%) indicated they had owned their agricultural operation from one to five years. The fewest amount of respondents had owned their operation for between 16 to 20 years (n = 9, 4.9%). When asked if their operation was in any part classified as alternative by the USDA, the majority of respondents (n = 108, 58.4%) said their operation was in no part classified as alternative, while 19.5% (n = 36) said their entire operation was alternative and 12.7% (n = 21) said only part of their operation carried alternative designation. The number of respondents engaged in some type of direct-to-consumer marketing was very similar, although more of the respondents (n = 92, 49.7%) were not involved in any direct-to-consumer marketing while 41.6% (n = 77) did market to their consumers in this way.

Respondents also were asked to indicate what type of electronic devices they owned that had some sort of Internet access. The most common type of electronic device respondents owned with Internet access was a laptop (n = 154, 83.3%), but more than half of respondents also owned some brand of smartphone (n = 120, 64.9%) and a desktop computer (n = 104, 56.2%). Respondents could select more than one type of device, and the majority of respondents (n = 145, 85.9%) did own more than one. Only 14.1% (n = 26) indicated they only owned one device.

RQ 1: What is the extent of respondents' personal use of online communication tools?

Table 1 displays the respondents' frequency of use for several popular online communication tools for personal use. The most frequently utilized online communication tool for personal reasons was websites, with 56.2% (n = 95) of respondents indicating they use the tool at least once daily. Facebook also was indicated as a frequently utilized tool, with 47.3% (n = 80) reporting daily use of the social media site. More than a third of respondents (n = 65, 38.5%) also indicated using YouTube at least once each month for personal reasons. Other online communication tools respondents identified for personal use included AgChat, email, Kickstarter.com, LinkedIn, and FourSquare.

For all of the other tools suggested, either the majority of respondents, or close to the majority, indicated they never used the tool for personal reasons. These included Google+ (n = 75, 44.1%), Twitter (n = 128, 77%), photo sharing websites (n = 109, 61.7%), blogging websites (n = 117, 69.6%), social bookmarking sites (n = 122, 72.2%), and social media management sites (n = 158, 94.6%).

Table 1
Online Communication Tool Preference for Personal Use

	Do Not Use		Monthly		Weekly		Daily	
Tool	*n*	%	*n*	%	*n*	%	*n*	%
Website [b]	35	20.7	13	7.7	26	15.4	95	56.2
Facebook [b]	40	23.8	14	8.3	35	20.7	80	47.3
Google+ (Plus) [a]	75	44.1	11	6.5	33	19.4	51	30.0
Twitter [e]	128	77.1	18	9.7	10	6.0	10	6.0
YouTube [b]	49	29.0	65	38.5	43	25.4	12	7.1
Photo Sharing Websites [d]	103	61.7	46	27.5	10	6.0	8	4.8
Blogging Website [c]	117	69.6	24	14.3	18	10.7	9	5.4
Social Bookmarking [a]	122	72.2	20	11.8	17	10.1	10	5.9
Social Media Management [d]	158	94.6	4	2.4	4	2.4	1	0.6
Other [f]	88	88.0	5	5.0	0	0.0	7	7.0

Note. Frequency percentages are calculated for the number of responses for each tool, respectively. [a]n = 170, [b]n = 169, [c]n = 168, [d]n = 167, [e]n = 166, [f]n = 100.

RQ2: What is the extent of respondents' business use of online communication tools?

Table 2 displays the respondents' frequency of use for several popular online communication tools for business purposes. In terms of use for their agricultural operations, websites were the only tool at least one third of respondents utilized every day for business purposes (n = 63, 37.3%). For all the other tools, a majority or close to a majority indicated they did not use the tools at all. A few did indicate they used "other" communication tools for their agricultural business, including email, LinkedIn, cattlerange.com, and Mailchimp.

Table 2
Online Communication Tool Preference for Use in Agricultural Operations

	Do Not Use		Monthly		Weekly		Daily	
Tool	*n*	%	*n*	%	*n*	%	*n*	%
Website [b]	47	27.8	21	12.4	38	22.5	63	37.3
Facebook [b]	77	45.3	21	12.4	32	18.8	40	23.5
Google+ (Plus) [a]	99	59.3	16	9.6	27	16.2	25	15.0
Twitter [e]	141	83.9	10	6.0	9	5.4	8	4.8
YouTube [b]	100	59.5	46	27.4	17	10.1	5	3.0
Photo Sharing Websites [d]	144	86.2	16	9.6	3	1.8	4	2.4
Blogging Website [c]	126	75.9	23	13.9	11	6.6	6	3.6
Social Bookmarking [a]	148	88.6	15	9.0	1	0.6	3	1.8
Social Media Management [d]	158	95.2	6	3.6	0	0.0	2	1.2
Other [f]	103	92.8	2	1.8	2	1.8	4	3.6

Note. Frequency percentages are calculated for the number of responses for each tool, respectively. [a]n = 170, [b]n = 169, [c]n = 168, [d]n = 167, [e]n = 166, [f]n = 111.

RQ 3: What relationship exists between online communication tool use for personal and business purposes?

Cramer's V was calculated to determine statistical significance of the relationship between personal and business use of each online communication tool. Cramer's V ranges from 0 to 1.0, with values closer to 1.0 indicating a stronger significance (Morgan et al., 2001). Cramer's V values close to .2 indicate a small effect size, values close to .5 indicate a medium effect size, and values closer to .8 indicate a large effect size. If a value shows a high level of significance, this means the strength of the relationship is significant (Morgan et al., 2001).

Combined results for personal and business use as well as Cramer's V values are reported in Table 3. Looking at these results, all effect sizes would be considered a medium effect size except for social media management tools and blogs. Social media management tools had a small effect size, while blogs had a large effect size.

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Table 3

Relationships Between Online Communication Tool Frequency of Use for Personal or Agriculture Use

	Daily				Weekly				Monthly				Never					
	Personal		Ag		Personal		Ag		Personal		Ag		Personal		Ag			
Tool	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	Cramer's V	p
Website	95	56.2	63	37.3	26	15.4	38	22.5	13	7.7	21	12.4	35	20.7	47	27.8	.50	.00
Facebook	80	47.3	40	23.5	35	20.7	32	18.8	14	8.3	21	12.4	40	23.8	77	45.3	.44	.00
Google+	51	30.0	25	15.0	33	19.4	27	16.2	11	6.5	16	9.6	75	44.1	99	59.3	.52	.00
YouTube	12	7.1	5	3.0	43	25.4	17	10.1	65	38.5	46	27.4	49	29.0	100	59.5	.50	.00
Twitter	10	6.0	8	4.8	10	6.0	9	5.4	18	9.7	10	6.0	128	77.1	141	83.9	.50	.00
Social Bookmarking	10	5.9	3	1.8	17	10.1	1	0.6	20	11.8	15	9.0	122	72.2	148	88.6	.46	.00
Blogging Website	9	5.4	6	3.6	18	10.7	11	6.6	24	14.3	23	13.9	117	69.6	126	75.9	.70	.00
Photo Sharing Websites	8	4.8	4	2.4	10	6.0	3	1.8	46	27.5	16	9.6	103	61.7	144	86.2	.50	.00
Other	7	7.0	4	3.6	0	0.0	2	1.8	5	5.0	2	1.8	88	88.0	103	92.8	.58	.00
Social Media Management	1	0.6	2	1.2	4	2.4	0	0.0	4	2.4	6	3.6	158	94.6	158	95.2	.33	.00

Conclusions/ Implications/Recommendations

Previous authors have stated the need for agriculturists to explore the use of online communication tools (Doerfert et al., 2012; Hoffman, 2009; Telg & Barnes, 2012). In the current study, the researchers sought to determine the extent to which agriculturists use online communication tools for personal and business purposes with specific emphasis on those who may be classified as beginning farmers or ranchers. The average age of respondents in this study was 39 years old, which is lower than the average age of all U.S. farm operators and beginning farmers and ranchers (NASS, 2014a). However, this study did not use a random sample of U.S. farmers and ranchers and actually selected organizations that served younger and/or beginning agriculturists. In fact, the majority of respondents had owned their operation for 10 years or fewer (n = 107, 57.9%) and thus would be classified by the USDA as a beginning farmer and rancher.

A large number of respondents (n = 145, 85.9%) owned more than one type of electronic device with Internet-access capability. This is slightly lower than statistics reported by the AFBF (2013), which indicated 92% of all young farmers and ranchers utilize a computer for their operation, with most having access to high-speed Internet capabilities. However, the AFBF survey was limited to those under the age of 35, while this research included agriculturists of any age, with a varying amount of on-farm experience.

In regard to the study's research question one, it was anticipated respondents would use a wide range of online communication tools frequently for personal reasons, such as to interact with friends and family. However, respondents used only websites, Facebook, and YouTube with any regularity. All remaining tools were never used or were used very infrequently. Only 56.2% (n = 95) of the respondents used one of the most basic tools, websites, on a daily basis. In fact, about 20% of respondents (n = 35) indicated they did not use websites at all. Almost half indicated they employed Facebook for personal reasons on a daily basis (n = 80, 47%), while nearly 40% (n = 65, 38.5%) reported visiting YouTube at least once each month. Not surprisingly, those tools with more popularity for personal use are more established and popular in mainstream culture, such as Facebook. This supports Rogers' (2003) idea that people are more likely to use tools that have been tested and approved by friends, family, and peers. Diffusion of innovations follows a distinct curve, where more people adopt a new innovation or technology as a function of time. Compared to many of the other online communication tools included in this study, websites and Facebook are the oldest available tools and have the most active users. The popularity of websites and Facebook is consistent with research identifying a unique audience for these two popular online communication tools (AFBF, 2015) and findings that agriculturists are actively engaging in social media.

Uses and gratifications theory also helps explain why these tools may be the most popular for personal use. Websites are a very general type of tool used for a number of reasons. Respondents could be using websites for e-commerce purposes or even to look up menus for their favorite restaurants. Facebook is used as a tool to socialize and connect with friends and family. Other tools, like Twitter, social media management tools, or blogs, have a reputation as being more for business and may not be meeting as many personal needs for these respondents. They also are selecting the tools that have more potential for personal and entertainment values.

Respondents may be engaging in particular social media platforms as a result of a tool being popular among their acquaintances. If an agriculturist's peers favor a certain form of social media, the technology acceptance model (Davis, 1989) suggests the farmer or rancher may be more likely to adopt the same technology. Viewing others using technology could suggest to a potential user that not only is the tool useful, but it is also manageable to use, both of which have a direct correlation

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to the farmer or rancher making the decision to adopt a particular technology. Diffusion of innovations theory termed this phenomenon as observability, which is a positive influence on adoption rates (Rogers, 2003)

The second research question sought to determine the extent of online communication tools for the respondents' agricultural operations. As in their use for personal reasons, websites were the most frequently used tool each day for business purposes (n = 63, 37.3%), but fewer respondents indicated using websites on a daily basis for the business than for personal reasons. The only other tool with a significant amount of daily use for business was Facebook (n = 40, 23.5%), but almost half of the respondents indicated not using Facebook in any way for their business (n = 77, 45.3%). In fact, all of the tools except for websites and Facebook had at least a majority, if not almost all respondents, indicate they did not use the tool at all for business purposes. In total, seven of the nine given online communication tools were not being used by a majority of agricultural producers for business purposes.

Kaplan and Haenlein (2010) said social media can be used by companies of all sizes and structures to engage in customer relationships and at a lower cost than traditional media. Currently, it seems not very many agricultural producers use these online communication tools for their businesses. In the diffusion of innovations theory (Rogers, 2003), adoption is a function of time and influenced by innovation attributes such as trialability, observability, and compatibility. Following Rogers' curve of diffusion, these tools may still be in the initial stages of adoption. Although these tools are free and have easy availability to be experimented with, the producers in this survey may not have seen these tools utilized in a professional, business manner by peers or competitors. If they are not comfortable utilizing these tools for personal reasons, it is unlikely they would be interested in or committed to utilizing the same tools in a professional setting.

Respondents might have adopted a technology because of a recommendation from a friend or viewing a competitor's usage, which supports the technology acceptance model's idea that perceived usefulness and ease of use influence actual use of a particular technology (Irani, 2000). However, they will not begin or continue use of a tool unless they have identified the direct benefits the online communication tool will have for their business. An important aspect of diffusion of innovations is relative advantage, meaning potential users will not change their usage patterns unless they see the innovation as being better in some way to their previous tool or method (Rogers, 2003). Assuming these respondents have successful businesses, they have been using a particular set of tools or skills to market their business. According to uses and gratifications theory (Katz, et al., 1973), if they do not see value or gratifications in altering their marketing strategy, they have no incentive to make these alterations. This demonstrates that for many, these online communication tools have no relative advantage over what they have already been doing to market their agricultural businesses.

Overall, there was a significant correlation between personal and business use of each online communication tool at every frequency of use. Those who are utilizing a specific tool more frequently for personal reasons are also utilizing the same tool for business purposes, and vice versa. In the same token, if they are not using a tool in their personal life, they are unlikely to be exploring use of the same tool in a business setting. Abrams and Sackmann (2014) also found an association between personal and business social media use among alternative farmers in Illinois.

When considering which devices respondents were using to access these tools, more than three-quarters of all participants owned some sort of a laptop or other mobile device to access the Internet. From this information, it is evident agriculturists have widespread access to online communication tools, regardless of whether they are choosing to utilize them. The non-adoption of these online communication tools is an area that should be researched more thoroughly.

It would be beneficial to complete more qualitative research using in-depth interviews or focus groups to thoroughly explore why agriculturists select certain online communication tools and how they are used. This study did not ask respondents to describe their use of online communication tools and this could vary from looking for information to actively creating and posting content. Additionally, respondents indicated they use other tools than the ones listed on the questionnaire. A qualitative approach would help identify what these tools are and perhaps any unique aspects they provide agriculturists.

This study is limited in its use of a non-probability sample. This study should be replicated with a larger, random sample of U.S. farmers and ranchers. This would improve the generalizability of the findings. Research should be conducted in additional states and agricultural industries not adequately represented in this survey to determine if agriculturists in those states and industries follow the same patterns of online communication tool usage as those reported in this data. Comparing online communication tool use by age, gender, or other relevant characteristics also would provide additional insight into the adoption or non-adoption of these tools.

Finally, further inquiry should be made into the trend of those utilizing these tools for personal purposes being more likely to utilize online communication tools for professional reasons. This is a pattern not adequately explored in prior literature. It could be difficult for farmers and ranchers to make a clear distinction between the use of online communication tools for personal and business purposes because for many, these are one and the same. Agriculturists are often encouraged to share stories and experiences of their livelihood, and this request requires them to "blur the lines" between what is personal and what is professional information. This may be both an incentive and barrier for agriculturists to become more active communicating online and deserves to be further explored in subsequent research.

References

Abrams, K. M. & Baker, L. M. (2012, October). *The effect of a new media course on students' thinking and behavior*. Paper presented at the American Association of Agricultural Education North Central Region Conference: Champaign, IL.

Abrams, K., & Sackmann, A. (2014). Are alternative farmers yielding success with online marketing and communication tools for their social capital and business viability? *Journal of Applied Communications, 98*(3), 48-62.

Ahearn, M, & Newton, D. (2009, May). *Beginning farmers and ranchers, EIB-53, U.S. Department of Agriculture, Economic Research Service.* Retrieved from http://naldc.nal.usda.gov/download/31895/PDF

American Farm Bureau Federation. (2013). *Adequate land ranks as top concern of young farmers.* Retrieved from http://www.fb.org/index.php?action=newsroom.news&year=2013&file=nr0307.html

American Farm Bureau Federation. (2015). *Young farmers still concerned about adequate land.* Retrieved from http://www.fb.org/index.php?action=newsroom.news_article&id=269

Anderson-Wilk, M. (2009). Changing the engines of change: Natural resource conservation in the era of social media. *Journal of Soil and Water Conservation*, *64*(4), 129A-131A. doi: 10.2489/jswc.64.4.129A

Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history and scholarship. *Journal of Computer-Mediated Communication, 13*(1). Retrieved from http://jcmc.indiana.edu/

vol13/issue1/boyd.ellison.html. doi: 10.1111/j.1083-6101.2007.00393.x

Bullock, M. (2011, February). *Top direct marketing techniques.* Retrieved from http://voices.yahoo.com/top-direct-marketing-techniques-7932956.html

Bullock, S., Lockaby, J., & Akers, C. (2002, February). Virtual community: A concept ripe for harvest. Paper presented at the Southern Association of Agricultural Scientists Conference. Orlando, FL.

Bumgarner, B. A. (2007). You have been poked: Exploring the uses and gratifications of Facebook among emerging adults. *First Monday, 12*(11), 1-17.

Coursaris, C. D., Yun, Y., & Sung, J. (2010). Twitter users vs. quitters: A uses and gratifications and diffusions of innovations approach in understanding the role of mobility in microblogging. Mobile Business and 2010 Ninth Global Mobility Roundtable Proceedings. 481-486.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340.

Davis, F. D. (1993). User acceptance of information technology: System characteristics, user perceptions, and behavioral impacts. *International Journal of Man-Machine Studies, 38*, 475-487.

Dimitri, C., Effland, A., & Conklin, N. (2005). The 20th century transformation of U.S. agriculture and farm policy. Retrieved from http://ageconsearch.umn.edu/bitstream/59390/2/eib3.pdf

Doerfert, D. L., Graber, L., Meyers, C., & Irlbeck, E. (2012, May). Traditional and social media channels used by Texas agricultural producers. Paper presented at the *American Association for Agricultural Education Research Conference*. Asheville, NC.

Duggan, M., & Brenner, J. (2013, February 14). *The demographics of social media users – 2012.* Retrieved from http://pewinternet.org/Reports/2013/Social-media-users/The-State-of-Social-Media-Users.aspx

Eighmey, J. & McCord, L. (1998). Adding value in the information age: Uses and gratifications of sites in the world wide web. *Journal of Business Research, 41*, 197-194.

File, T., & Ryan, C. (2014). Computer and internet use in the United States: 2013. American Community Survey Reports, ACS-28, U.S. Census Bureau, Washington, DC. Retrieved from: http://www.census.gov/content/dam/Census/library/publications/2014/acs/acs-28.pdf

Fishbein, M., & Ajzen, I. (1975*). Belief, attitude, intention and behavior: an introduction to theory and research.* Reading, MA: Addison-Wesley.

Gold, M. V. (2007). *Sustainable agriculture: Definitions and terms.* Retrieved from USDA National Agricultural Libary Alternative Farming Systems Information Center: http://www.nal.usda.gov/afsic/pubs/terms/srb9902terms.shtml#term2

Gulati, J. & Williams, C. B. (2011). *Diffusion of innovations and online campaigns: Social media adoption in the 2010 U.S. congressional elections.* Retrieved from http://dx.doi.org/10.2139/ssrn.1925585

Hoffman, A. (2009, July 20). *Re: Social media bridges consumer-producer gap* [Web log message]. Retrieved from http://www.fb.org/index.php?fuseaction=newsroom.focusfocus&year=2009&file=fo0720.html

Irani, T. (2000). *Prior experience, perceived usefulness, and the web: Factors influencing adoption of internet communication tools.* Paper presented at the Southern Association of Agricultural Scientists Conference. Lexington, KY.

Joinson, A. N. (2008, April). *Looking at, looking up or keeping up with people: Motives and use of Facebook.* Paper presented at the Conference on Human Factors in Computing Systems (CHI), Florence, Italy. Retrieved from http://www.mendeley.com/research/looking-at-looking-up-or-keeping-up-with-people-motives-and-use-of-facebook/

Kaplan, A. M., & Haenlein, M., (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons, 53* (1), 59-68.

Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratifications research. *The Public Opinion Quarterly, 37* (4), 509-523.

Kelleher, T. & Sweetser, K. (2012). Social media adoption among university communicators. *Journal of Public Relations Research, 24*(2), 105-122. doi: 10.1080/1062726X.2012.626130

Lederer, A. L., Maupin, D. J., Sena, M. P., & Zhuang, Y. (2000). The technology acceptance model and the world wide web. *Decision Support Systems, 29*, 269-282.

Lee, Y., Kozar, K. A., & Larsen, K. R. T. (2003). The technology acceptance model: past, present, and future. *Communications of the Association for Information Systems, 12*, 752-780.

Lenhart, A. (2009). *Social networks grow: Friending mom and dad.* Retrieved from http://pewresearch.org/pubs/1079/social-networks-grow

National Agricultural Statistics Service. (2014a, May) Farm demographics: U.S. farmers by gender, age, race, ethnicity, and more. Retrieved from http://www.agcensus.usda.gov/Publications/2012/Online_Resources/Highlights/Farm_Demographics/Highlights_Farm_Demographics.pdf

National Agricultural Statistics Service. (2014b, June). Beginning farmers: Characteristics of farmers by years on current farm. Retrieved from http://www.agcensus.usda.gov/Publications/2012/Online_Resources/Highlights/Beginning_Farmers/Highlights_Beginning_Farmers.pdf

Peng, G. & Mu, J. (2011). Technology adoption in online social networks. *Journal of Product Innovation Management, 28*(s1), p. 133-145. doi: 10.1111/j.1540-5885.2011.00866.x

Pew Research Center. (2004, February 17). *Rural Americans' internet use has grown, but they continue to lag behind others.* Retrieved from http://www.pewinternet.org/Press-Releases/2004/Rural-Americans-Internet-use-has-grown-but-they-continue-to-lag-behind-others.aspx

Pfeil, U., Arjan, R., & Zaphiris, P. (2009). Age differences in online social networking – A study of user profiles and the social capital divide among teenagers and older users in MySpace. *Computers in Human Behavior, 25*, 643-654.

Rhoades, E. & Aue, K. (2010, February). *Social agriculture: Adoption of social media by agricultural editors and broadcasters.* Paper presented at the Southern Association of Agricultural Scientists Conference. Orlando, FL.

Rigby, B. (2008*). Mobilizing generation 2.0: A practical guide to using Web 2.0 technologies to recruit, organize, and engage youth.* San Francisco, CA: John Wiley & Sons.

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York: The Free Press.

Ruggiero, T. E. (2000). Uses and gratifications theory in the 21st century. *Mass Communication and Society, 3*(1), 3-37.

Ruth-McSwain, R. (2008). Penchant for Print: Media Strategies in Communicating Agricultural Information. *Journal of Applied Communications, 92*(3-4).

Smith, A. (2010). *Mobile access 2010*. Retrieved from: http://www.pewinternet.org/files/old-media//Files/Reports/2010/PIP_Mobile_Access_2010.pdf

Telg, R., & Barnes, C. (2012). Communication preferences of Florida Farm Bureau young farmers & ranchers. *Journal of Applied Communications, 96*(2), 50-65.

Wisconsin State Farmer. (2011, February 11). *Social media is agriculture's newest survival tool.* Retrieved from http://bit.ly/U2168o

Zickuhr, K., & Madden, M. (2012, June 6). *Older adults and internet use.* Retrieved from http://www.pewinternet.org/Reports/2012/Older-adults-and-internet-use.aspx

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The Impact of Local: Exploring Availability and Location on Food Buying Decisions

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Abstract

The term "local food" is a buzzword in the food industry for consumers. However, when consumers make food-purchasing decisions, do they look for the specific growing locations and consider the seasonality of the product? In this study, researchers used focus groups to determine the impact growing location and months of availability have on consumers' purchasing decisions in order to identify effective communication strategies when communicating about local food. The theoretical framework of framing and cognitive dissonance informed this study. The findings from this research indicated consumers defined local food as grown in a certain area, state, or region. Additionally, results indicated consumers make food-buying decisions based on personal preference, versatility, health benefits, preparation, and seasonal cooking. Overall, consumers' decisions to buy produce were not impacted by growing season, but rather by their preference for a specific product. Participants noted most produce is available year round nationally. The researchers recommend communicators focus on developing message strategies framed toward the purchasing attributes identified by the participants instead of growing location and availability. Future research should continue to examine the impact of different frames on consumer food-purchasing decisions and how consumers perceive specific message frames.

Key Words

Local food, buying decisions, qualitative, focus groups, framing, cognitive dissonance

Introduction and Literature Review

Local food has become one of the largest food purchasing trends in the 21st century (Zepeda & Nie, 2011) and generates more than $8.3 billion for the Florida economy (Hodges & Stevens, 2013). Previous research has shown the amount and popularity of farmers' markets as well as other local food venues have grown substantially during the past decade (Brown & Miller, 2008). Additionally, in a 2010 national study, 82% of consumers reported they had previously purchased local food (Onozaka, Nurse, & McFadden, 2010). Despite the billions of annual revenue from locally grown food as well as the large percentage of consumers purchasing locally grown food, consumers still find limitations to buying local food in Florida, such as lack of availability or limited selection of local foods, inconvenience, and seasonal availability (Hodges & Stevens, 2013). To better promote local food products to consumers, communicators must understand what influences a consumer's decision to purchase local food. After understanding what influences a consumer's decision, communicators can use this information to frame messages to encourage the purchase of local food (Lundy, 2006).

In this study, previous literature was examined to explore how the definition of local food, the

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attributes of food, and the seasonality and months of availability impacted consumers' decisions to purchase local products. Previous literature has explained how consumers are influenced by their previous knowledge and expectations of a product (Lindsey-Mullikin, 2003), such as varying definitions of local food. Although a generally accepted definition of local food does not exist (Martinez et al., 2010), the United States Department of Agriculture has defined local food as a product that has traveled less than 400 miles from its origin or within the state it is produced (Johnson, Aussenberg, & Cowen, 2013; Martinez et al., 2010). Additionally, consumers have differing definitions of local food (Onozaka et al., 2010). Some consumers have defined local food as being within a county, neighboring counties, or state (Zepeda & Li, 2006). Onozaka et al. (2010) found national survey respondents defined local as being within a 50-mile radius, while a 300-mile radius was considered regional. In a study by Hodges and Stevens (2013), most respondents viewed local food as being grown within a 100-mile radius of home, in the state, or in a bordering state. Consumers have suggested other definitions of local food, such as grown in their own city or town, country, and U.S. region (Hodges & Stevens, 2013).

Previous research has identified functional and psychological benefits linked to local food attributes that have an impact on food purchasing (Nie & Zepeda, 2011). Benefits to consumers included functional attributes, such as clean, safe, and healthy, as well as attribues that appealed to consumers' psychological emotions, such as environmental impact, preserving the farmland, and social fairness (Keeling-Bond, Thilmany, & Bond, 2009; Onozaka et al., 2004). Keeling-Bond et al. (2009) explored the link between consumer demand and food safety practices and found consumers purchased local food because they perceived it to be safe, clean, fresh, and of high quality (Keeling-Bond et al., 2009). Additionally, Onozaka et al. (2004) found consumers intended to make decisions to support their surrounding environments, or make "civic and society-focused decisions," and considered factors such as supporting the local economy, supporting farmers, and maintaining local farmland when purchasing produce (p. 2). However, in a study ranking functional produce attributes, taste/visual appeal, healthfulness and nutrition, good value, and convenience were ranked higher than the psychological attributes, such as environmental impact, preserving the farmland, and social fairness (Costanigro, McFadden, Kroll, & Nurse, 2011). Therefore, understanding what attributes influence consumers' decisions to purchase food can help communicators understand the decision-making process and frame specific messages to encourage the purchase of food (Abrams & Meyers, 2009).

A consumer's ability to buy local ultimately is influenced by a product's seasonality or the months of availability. If the product is not being grown in a specific area during a particular season, the consumer cannot buy the product locally. The individual then must choose to buy a similar non-local product or purchase a different product. Previously, seasonality has not been found to influence a consumer to purchase a product, and instead, the individual looks for similar product attributes in non-local foods (Arnold et al., 1983; Timmons, Wang, & Lass, 2008). This study's purpose was to determine what type of local food information impacts consumers and how communicators can use this information in messages to encourage the purchase of local food.

Theoretical Framework

Cognitive Dissonance

To develop messages to increase the purchasing of local food, the communicator needs to understand the thought process of the consumer. The theory of cognitive dissonance was developed by Leon

Festinger (1962) to describe the thought process, which occurs when an individual has two conflicting thoughts. Festinger (1962) stated people have a need for cognitive consistency and balance. When individuals are presented with a decision inconsistent with their beliefs or values, dissonance occurs. Hunt (2004) explains, "psychological discomfort motivates people to resolve inconsistency and restore cognitive balance" by making a decision to revert to their original thoughts (p. 147).

During the product selection and purchasing process, consumers often have to choose one product over another; thus, creating a cognitive conflict as they choose not to purchase alternative products (Kaish, 1967). Cognitive dissonance occurs when individuals choose to make a decision with negative attributes or not make a decision with positive attributes (Aronson, 1969). When purchasing local food, cognitive dissonance can occur when a consumer makes a decision to buy or not buy local food.

Festinger's (1962) theory of cognitive dissonance provides a framework to describe the situation when consumer are presented with a product inconsistent with their existing knowledge, behavior, attitudes, or values. Kaish (1967) stated, "cognitive dissonance is the result of a purchaser's ability to perceive product qualities that suggest that the good he has bought may be inappropriate to his needs" (p. 30).

Lindsey-Mullikin (2003) described Festinger's (1962) theory in relation to consumers' reaction to unmet price expectations, such as a higher food price. When consumers experience an unexpected price expectation, they adapt to seeking agreeable information, changing their attitude, or trivializing (Lindsey-Mullikin, 2003; Gbadamosi, 2009). According to Lindsey-Mullikin (2003), "consumers will tend to favor information that is consistent with their prior beliefs" and will reduce dissonance by seeking alternative products, either at different locations or by choosing a different product (p. 141). Consumers may reduce dissonance through attitude reduction or cognitive change (Lindsey-Mullikin, 2003). By changing their attitudes toward a product, consumers re-evaluate their previous ideas of price expectations (Lindsey-Mullikin, 2003). Trivialization may occur when the "dissonant relationship is reduced" (Lindsey-Mullikin, 2003, p. 142). Trivialization occurs when the product causing the dissonance becomes insignificant by the consumer and when the consumer purchases the product (Lindsey-Mullikin, 2003). This example shows how consumers experience dissonance when introduced to new products or new prices (Gbadamosi, 2009). In Hjelmar's (2010) study, interview participants tended to purchase a specific produce item when it was convenient. This study showed how participants were interested in a specific produce item; however, the participants were unlikely to seek the product unless it was convenient (Hjelmar, 2011). The resolution of cognitive dissonance does not suggest the correct decision has been made; but instead, suggests ways consumers can come to terms with their decisions and internal conflict (Goodwin, 2010).

Framing

After a communicator understands a consumer's thought process when deciding whether or not to purchase a local food, a communicator can develop messages targeted toward influencing the consumer to buy a local product. A consumer's interpretation of messages can be explained through framing (Goodwin, Chiarelli, & Irani, 2011). Entman (1993) wrote, "to frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, casual interpretation, moral evaluation, and/or treatment recommendation" (p. 52). As a communicator sets a frame, readers, viewers, or listeners interpret this information and discuss the information publicly (Scheufele, 1999). In other words, communicators summarize the main aspects of a specific topic to "define causes, make moral judgments and sug-

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gest remedies" (McQuail, 2012, p. 380), while consumers engage in discussions based on the framed idea, or a set of shared assumptions, and share the information presented by the frame (Hertog & McLeod, 2001).

A framed message will impact how an individual views a specific topic or idea (McQuail, 2012). A previous study evaluated how the media framed organic food to identify salience in consumer conversations (Meyers & Abrams, 2010). Meyers and Abrams (2010) found the media placed emphasis on ethical and moral reasons to purchase organic foods and placed limited emphasis on the scientific evidence of quality, safety, and nutrition. The results of this study showed the media framed buying organic food for ethical and moral reasons because it "presented organic food as a better food choice" (Meyers & Abrams, 2010, p. 27). By providing the consumer with framed information about specific attributes, the framed information will lead the individual to believing organic food is the better choice (Meyers & Abrams, 2010).

Purpose and Objectives

The purpose of this study was to understand consumers' buying behavior when purchasing local produce in order to identify effective communication strategies when communicating about local food. The following research objectives guided this study:

1. To determine the participants' definition of local food.
2. To determine what affects consumers' decisions to buy local produce.
3. To determine if consumer decision-making is influenced when given the months of availability or growing locations of Florida-grown food.

Methods

To fulfill the purpose of understanding consumers' buying behavior when purchasing local produce, qualitative focus group methodology was used. Qualitative research is necessary to understand the entirety of a social phenomenon (Ary, Jacobs, & Sorenson, 2010). A focus group is a specialized form of qualitative research used to gain a deeper understanding of the phenomenon through group interaction and discussion (Morgan, 1997). Kitzinger (1995) described a focus group as a group interaction allowing for participants to discuss, comment, and exchange ideas about specific questions and topics. Researchers are able to record and compile these discussions as qualitative data. This type of method allows researchers to gather rich data on how and why participants think the way they do about a particular topic based on the conversations that arise in the group discussion (Ary et al., 2010).

To generate group discussion, Kreuger (1994) suggested recruiting between seven and 10 participants and holding a minimum of three focus groups. A total of 93 individuals participated in these focus groups, with eight to 12 participants in each group. Participants were recruited based on their proximity to one of the focus group locations, interest in local food, and representative demographics of Floridians. An external marketing firm was used to select and recruit participants.

For this study, researchers conducted five sets of two (10 total) focus groups at different locations around the state; thus, achieving environmental triangulation (Guion, Diehl, & McDonald, 2009). The five geographic locations were chosen based on the type of crops grown in each location in the state of Florida. Since the crops grown vary across the state, the different focus group locations showed a representation of available local food in Florida. Following Kreuger's (1994) instructions, two focus groups were held in each location. Each focus group was approximately two hours long

and directed by the same moderator. An assistant moderator and two note takers accompanied the moderator at each of the focus groups. The focus groups were audio recorded and then transcribed by an external researcher.

A moderator's guide was used to organize and guide the focus group discussion based on Kreuger's (1994) recommendations. A panel of experts reviewed the finalized instrument for face and content validity. To fulfill the research objectives, questions were developed based on determining (1) the participants' definition of local food (2) what affects consumers' decisions to buy local produce, and (3) if consumers decision-making was influenced when given the months of availability or growing locations of Florida-grown food. To identify what local meant for participants in this study, the term local food was not defined for the consumer, and the consumer determined his or her own definition of local. To answer the second and third objectives, participants were asked to participate in two scenarios. For the first scenario, each participant was given 20 flashcards. The flashcards were developed by the Florida Department of Agriculture and Consumer Services to promote and highlight some of the state's prominent local products. Each flashcard had a fruit or vegetable on it that was grown in Florida. In addition to the fruit or vegetable, the card identified the primary growing location and the months of availability. Participants were asked to pretend when they left the focus group, they were going to the grocery store to buy five of the 20 fruits or vegetables to take home and eat during the month of March. Participants then were asked to discuss their decisions. After the first scenario, the participants were asked to repeat the same steps, but they were asked to pretend they were going shopping in the middle of October. Participants were asked again to discuss their decisions.

The focus groups included participant observation and clarification (Kreuger, 1994). At the end of each focus group, member checking was used as a form of validation. The conversation was summarized and the participants were asked to confirm and verify the summary (Kreuger, 2002). Data were analyzed using a thematic analysis. The lead researcher, a graduate student specializing in agricultural communications, analyzed the data for themes. An audit trail detailing the data analysis was used, thus increasing confirmability and dependability. A co-researcher confirmed the final themes (Creswell, 2007).

A total of 93 adults participated in the focus groups. The participants consisted of 37 males and 56 females, ranging in age from 21 to 58. The participants represented Caucasian, African American, Hispanic, and other races and ethnicities. Additionally, participants' education ranged from high school to graduate or professional degrees. The participants held various occupations, such as healthcare, education, business, government, construction, homemaker, food service, and retired.

Results

Research Objective 1: To determine the participants' definition of local food.

The participants were asked to define what local food meant to them. When asked, the participants indicated the four themes of (1) grown in a certain area, (2) statewide, (3) regionally, and (4) nationwide.

Grown in a certain location. In this theme, the majority of participants discussed how local food meant grown in a certain location within the state. Participants' discussed local food as being grown locally, grown in the area, or natively grown. In Gainesville, a participant explained, "grown in the area." Another participant in Orlando offered "natively grown" as a definition of local food. Participants in West Palm Beach discussed specific counties as a certain location, "About a three-county area." A Sarasota participant explained: "I think to be more specific to me. Basically, local to me is in

my area of Sarasota County." Local food was within a two-hour radius for another West Palm Beach participant who said, "food grown or raised in an hour or two at most away." A participant in Sarasota discussed, "I think anything close by driving distance, local to my house."

Grown within the state. Throughout the focus group discussion, participants indicated local meant food grown within a state. This theme was secondary to the theme detailing certain locations. A participant in Sarasota discussed how local food was selecting something grown statewide because it can be transported quickly to their location: "[Local] means, I would say, Florida. You can get it here pretty quick." In West Palm Beach, a participant discussed he/she would consider local being Florida:

> I usually think local is [the] State of Florida because I want to get my strawberries from Plant City. Those are the best ones. Down here in the sandy soil they aren't as good. If you can get your produce from Belle Glade, it's even better because it's grown in muck, it's richer.

Grown within a region. Across the focus group discussion, participants suggested local food could mean food grown in a specific region of the United States. A Tallahassee participant discussed local food could come from Florida and the surrounding states. This participant said, "If you bought fruits and vegetables and meats anywhere in the state of Florida, [they] would really be considered local, or even a little bit into Georgia and Alabama, I would consider local." A participant in Gainesville suggested the Southeast as a region where local food could be grown, "Grown in the Southeast, based on how far things can travel and how we move things around."

Grown within the nation. A small number of participants referred to local food as being grown within the nation. Participants suggested they preferred to buy food grown in the U.S. as opposed to food grown outside of the country. A participant from Orlando indicated he/she would rather buy food grown in the United States. This participant said: "I try not to buy out of the country, for whatever reason. I don't know, I feel like buying out of the country, some farmer in Idaho is going broke because I am buying my grapes from [another country]." In Tallahassee, food grown nationwide was more preferred than internationally grown food by a participant who said, "Something that's grown in the U.S. I would privilege over something that's grown in South America."

Research Objective 2: To determine what affects a consumers' decision to buy local produce.

After participants made their selection of five fruits or vegetables to buy, they discussed the reasons leading them to their selections. Five themes emerged as reasons for selecting certain fruits and vegetables, including (1) personal preference, (2) versatility, (3) health benefits, (4) preparation, and (5) seasonality.

Personal preference. Personal preference was the most dominant theme discussed by participants in objective 2. When the focus group participants discussed why they selected specific foods, the majority of participants indicated they selected foods liked by themselves or their families. A Gainesville participant discussed personal preference was the main motivation for buying food; he/she said: "I would say I'm a really picky eater. So, I definitely chose items that I liked." In Tallahassee, a participant selected foods liked by family members. The participant said, "I did blueberries, strawberries, and oranges as my kids eat them like crazy, and then watermelon and sweet corn because I know we are going to be cooking out this weekend."

Preparation. For this dominant theme, participants indicated they took preparation of the food

into consideration when making their selections. Participants tended to pick foods that did not require complex preparation and were easy to prepare. They also did not select food they did not know how to prepare. Local food selections were based on easy to prepare foods for this Sarasota participant who said, "Yeah, everything I chose is something that takes minutes to prepare." Another participant in Gainesville explained preparation time was a motivating factor when choosing the local food cards. The participant said, "The more time it takes to prepare something the less likely somebody is going to eat it." Local food selections were based on foods a Tallahassee participant knew how to eat. The participant said: "I was just asking about the star fruit. How do you eat this stuff? I don't know how to eat that so I'm not gonna buy it."

Versatility. Throughout the discussion, participants suggested foods were selected based on versatility. While choosing foods to be used for a variety of purposes was important to participants, it was secondary to their primary personal preference. Participants explained foods with versatility could be used in a variety of dishes or meals. One participant in Tallahassee chose to select produce used in many meals throughout the week. The participant said:

> Okay, I chose watermelon and cantaloupe and strawberries, because we eat a lot of fruit and you can eat them by themselves or you can cut them up and have them as a salad. You can have them for breakfast, lunch, or dinner; it really doesn't matter. They're all good. … [These are] very versatile foods.

A participant in West Palm Beach selected five local food cards based on foods that could be used in a variety of meals. The participant said:

> I like the variation of everything I chose. You can use blueberries to put in oatmeal and you can use blueberries in a great salad. You can cook tomatoes, you can eat them fresh, and they are delicious. They look nice on a plate and add a little color.

Health benefits. Throughout research objective two, a couple of participants in each of the focus groups indicated health benefits as a reason for selecting certain foods. A participant in Gainesville explained how the vitamin and nutrient content influenced which foods they selected. This participant said: "I chose the greens because of the vitamins, the iron that you can get … I chose the tangerines because of the vitamins. They have Vitamin C, and they help keep your immune system up." Another participant in Gainesville primarily selected foods fitting nutritional requirements and standards. The participant said: "I chose carrots, peppers, tomato, greens, and strawberries. The first thing I was looking at was whether they fit our nutritional requirements for nutritional standards."

Seasonal Cooking. After the participants thought about the five fruits or vegetables the participants would go and buy at the grocery store after the focus group, the participants were asked to make five new selections for the month of October. Several participants changed their selections because their food preferences changed in the autumn months. Their selections included more vegetables to be used by themselves or in soups and casseroles. While seasonal cooking was a dominant theme for the October decision, the idea of selecting products for seasonal cooking was not emphasized in the discussion surrounding the March scenario. A change in season meant a change in cooking styles for a Gainesville participant, who said:

> I switched up some things. I added citrus because I buy it normally in the fall because of it be-

> ing in season. Normally in the fall, I am moving from cabbage to greens and I normally start doing greens then in preparation for holiday meals. I don't do them [greens] all year round.

Another participant discussed selecting vegetables for soup when they said, "I picked all vegetables because I was thinking of making soups and stuff like that because it's getting closer to winter. You want more comfort food and that's right to me."

Research objective 3: To determine if consumer decision-making is influenced when given the months of availability or growing locations of Florida-grown food.

To fulfill research objective three, focus group participants were asked to discuss how the months of availability and the growing location impacted the five fruits or vegetables they selected in both scenarios. Participants indicated the following themes for objective three: (1) months of availability and growing location has no impact on decision, (2) participants looked at the months of availability or growing location, (3) months of availability and growing location were secondary to their primary preference, and (4) the foods would still be available in the grocery store even if the card indicated foods were not available. In addition, participants discussed how the information on the card was interesting and informative.

No impact on decision. In research objective three, the majority of participants indicated the month's availability and the growing locations did not make an impact on food-buying decisions. This dominant theme was evident when many of the participants responded by saying, "No" or "Not at all."

Looked at months of availability and growing location. While no impact on decision was the most dominant theme in the third objective, participants discussed looking at the months of availability and growing location. Most participants looked at both the months of availability and the growing location, but they indicated this information did not impact their decisions. Further discussion of participants' consideration of months of availability and growing location is below.

Months of availability and growing location did not make an impact. A few participants stated they did look at the months of availability and the growing location, but it did not impact their decision. In Gainesville, a participant discussed looking at the months of availability, but it did not affect his/her selection, "I noticed them [months of availability], but it did not affect my choice." In West Palm Beach, a participant discussed only looking at the growing location because food location was the topic of the focus group. The participant said: "I looked at it because we have been talking about it all day. But, otherwise I probably wouldn't have looked as hard." Several participants discussed looking at the growing location on the card but not considering the information in their decisions. One participant said, "I did [look at the growing location], but it didn't factor into my decision."

Participants discussed foods are always available in the grocery store. A Gainesville participant said: "You can find watermelon in January if you want to. [agreement heard] You know, you go to Publix and you can find all this stuff. To me, the availability didn't really weigh in on it [decisions]." In Orlando, a participant discussed different growing locations that allowed foods to be available all year round. This participant said:

> Someone, somewhere is growing it and you can get it. It might not be quite as good, you get the Zellwood corn and you can't beat that. But, somebody in Georgia is gonna be growing corn. You know it's always available.

In Orlando, a participant explained how he/she picked foods based on their preferences, not based on their location: "I picked what I eat. These are foods that I'm gonna want to eat. I didn't look at all at when they were grown or where they were grown."

Months of availability were considered as a factor when selecting local foods. In this secondary theme, the months of availability were considered in a few of the participants' decision to select a local food. In West Palm Beach, a participant said, "I mean, I definitely looked to see that they are available now." In Tallahassee, two participants discussed looking at the months of availability when selecting their foods. The first participant said, "I checked to make sure they were available." Another participant agreed and said, "Yeah, I did the same thing."

Some participants discussed making changes in their food selections in the October scenario because something they had previously picked was not available in October. In Gainesville, the months of availability caused a participant to change his/her selection: "I switched my cantaloupe to sweet corn because cantaloupe is not available in October. Yes, you can get things year round, but it is usually shipped from someplace else." In West Palm Beach, a participant put back an item due to the months of availability. The participant said, "This time around it was a little different because I literally looked at the months to see what was available. I put my cantaloupe back."

Secondary to primary preference. While some participants indicated they looked at the growing location and months of availability of the local foods they selected, others discussed growing location and months of availability were secondary to their preferences. This theme was apparent in each of the focus groups. In Orlando, the purchasing of local food was a preference of a participant but not a primary concern. This participant said: "I had sweet corn and celery, tangerines, strawberries, and blueberries. This is stuff that I like. I noticed that they are all available now and I like things that are available here, but that wasn't my primary concern." Personal preferences came before the growing location and months of availability for a West Palm Beach participant, who said, "I picked all of mine and then looked at everything else, when they were available, how they were grown." A participant in Tallahassee discussed prioritizing food preferences even though the months of availability and growing location were apparent on the card. This participant said:

> I guess for me, I prioritize the food item first, and then I probably would have looked at the months. Even though the [information] was there, obviously taking up a big portion of the card, the food stood out first for me, before the map or the months of availability.

Interesting information. Throughout the focus groups, a few participants discussed how the information about growing locations and availability was interesting and informative. They indicated they enjoyed learning where a certain fruit or vegetable was grown. Growing location was found interesting by a participant in Orlando; however, it did not impact his/her decision to buy a product. This participant said, "It was kind of interesting to see what was [grown] where, but it didn't determine whether or not I buy it." Other participants enjoyed learning about where their food comes from. In West Palm Beach, a participant said, "This is very informational. I like to see which counties [the food comes from]."

Conclusions/Discussions

To develop communication strategies to increase consumers' purchases of local food, this study sought to understand how "local food" information impacts a consumer's buying decisions. These

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findings are consistent with previous literature suggesting participants made local food-buying decisions based on their previous knowledge and definitions, personal preferences, versatility of the produce, health benefits, the ease of preparation, and the time of year (Keeling-Bond, Thilmany, & Bond, 2009; Nie & Zepeda,2011, Onozaka et al., 2004).

In objective one, participants indicated local meant a variety of different definitions, including grown in a certain area, grown within the state, grown within a U.S. region, and grown in the United States. The participants' perceptions of locally grown food was consistent with the previous literature that reveals varying definitions of local food and consumers defining local food as coming from within a county, state, or bordering state (Martinez et al., 2010; Onozaka et al., 2010).

The second objective indicated the types of attributes consumers look for in local food. Emergent themes included personal preference, versatility, health benefits, ease of preparation, and use in seasonal cooking. From this objective and the previous literature, researchers were able to identify the functional and psychological benefits consumers look for in local food (Nie & Zepeda, 2011; Keeling-Bond, Keeling-Bond et al., 2009; Onozaka et al., 2004). The functional benefits include personal preference, versatility, and health benefits, whereas the psychological benefits included ease of preparation and use of seasonal cooking. The months of availability and growing location could also be considered a psychological benefit (Keeling-Bond et al., 2009; Onozaka et al., 2004) as participants looked at the information and found it interesting; some even wanted to support the local farmer, but they also found the information to be secondary to their primary preferences. This finding is consistent with the previous literature suggesting the psychological benefits were secondary to the functional benefits of a product (Keeling-Bond et al, 2009; Onozaka et al., 2004).

Additionally, the findings of objective two suggest the participants had pre-existing expectations their produce selections should match their preferences, their need for versatility in produce, and their need for easy preparation. Pre-existing expectations have been previously shown to influence consumer perceptions of a product (Lindsey-Mullikin, 2003). In addition, pre-existing knowledge, such as the health benefits of produce, have been shown to influence consumer perceptions of a product (Keeling-Bond et al, 2009; Lindsey-Mullikin, 2003; Onozaka et al, 2004). By understanding what attributes impact a decision, communicators can frame specific messages (Abrams & Meyers, 2009) to cater products toward the local attributes favored by consumers.

The third research objective explored the effect of frames presented to the participants, in the form of growing location and months of availability, about the Florida-grown food from which they could select. The frames were designed to help the participants make judgments about their selections (McQuail, 2012). Similarly to previous studies, it appears the framed information of growing location and months of availability did not influence participants to select certain products as the participants thought about the product (Arnold et al., 1983; Timmons, Wang, & Lass, 2008), underwent cognitive dissonance, and selected products that were not in season or not grown in their immediate area (Festinger, 1962). Additionally, the results from objective one suggest many participants defined local food as being within the state, region, or nation. In the scenarios given to participants, all of the food options were grown within the state. Therefore, growing location may not have had an influence on their decisions as it likely aligned with their broad and, perhaps, varying definition of local food. Months of availability also may have had limited impact on buying decisions because in the participants' reality they can buy these foods from the grocery store at anytime during the year. These results are similar to previous literature showing consumers often disregard the growing location and the months of availability and instead looked for similar attributes in non-local foods (Arnold et al, 1983; Timmons, Wang, & Lass, 2008). However, it is important to remember the results of this

study are limited to the participants who participated in this study and the researchers' interpretation of their discussion. The results may have been different outside of the focus group setting or among alternative participants.

Recommendations and Implications

The findings of the research objectives indicate information about the months of availability and the growing location may not be as important to consumers' food-buying decisions as previously thought (Brown & Miller, 2008). These findings also gave insight to what consumers value as local and their preference for local food to be from within a specific area or statewide. The findings also suggested some participants are satisfied with food being grown within a specific region or the nation.

Agricultural communicators can use these results to develop promotional and communication materials targeted toward consumers' preferred food attributes (Meyers & Abrams, 2010) to promote local food from Florida. Since the results of this study indicate consumers do not primarily take growing location and months of availability into consideration, communicators should not use this type of information as a main message in promotional materials of Florida-grown food. Instead, communicators should focus on designing promotional materials illustrating the preferred attributes, such as the importance of healthy eating, versatility, and consumer preference for a particular local product. If local food information is framed to meet one or more consumer preference attributes, such as health benefits, versatility, and ease of preparation, a consumer may be more willing to purchase the local product (Abrams & Meyers, 2009; Keeling-Bond et al., 2009; Onozaka et al, 2004).

Promotional materials communicating preferred attributes should be placed in grocery stores and near products during their months of availability when possible. For example, promotional materials could provide alternatives to local foods not available during a particular season and also could provide easy, healthy, and quick recipes for seasonal products. Communication practitioners should encourage commodity organizations and producers to promote these attributes and develop similar materials for local food products. Additionally, communicators should use caution when using months of availability and growing location within the state to promote local products as this information had little impact on product selection in this study. However, this information was found to be interesting among the participants. Communicators should partner with the extension service to incorporate information about products grown in the state and the availability of these products in non-formal educational programming for consumer audiences interested in local food. Implementation of these recommendations will enhance communication and promotion of local food within the state, ultimately, impacting buying decisions.

Future research should continue to examine the effects of frames on consumers' food-buying decisions and perceptions. Specifically, comparing the effects of different frames, on different food products, and different audiences, would be of interest. Researchers should use the five attributes identified by participants to develop local food messages. These messages should be tested through research with a desired target audience. Similar research should be conducted within Florida to determine if the outcomes of the scenarios differ when participants are given foods not grown in Florida or even in the United States. Additionally, this research should be replicated in other states. Since the type and availability of local food varies by state, replication in other states could provide state specific implications as well as opportunities for comparison. A quantitative study assessing the influence of frames on behavioral intent to buy local food also would be of interest. This study was specific to residents in the State of Florida and generalization beyond this population should be done with caution.

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References

Abrams, K., & Meyers, C. (2009). From opposite corners: Comparing persuasive message factors and frames in opposing organizations replication *Journal of Applied Communication, 96*(1), 54 of Applied Communication, 96m opposite corners: Comparing persuasive message factors and frames in opposing organ

Arnold, S. J., Oum, T. H., & Tigert, D. J. (1983). Determinant attributes in retail patronage: seasonal, temporal, regional, and international comparisons. *Journal of Marketing Research, 20*(2), 149-157.

Aronson, E. (1969). *The theory of cognitive dissonance: A current perspective.* New York: Academic Press.

Ary, D., Jacobs, L. C., Sorensen, C. (2010). *Introduction to Research in Education* (8th ed.). Belmont, CA: Wadsworth.

Brown, C., & Miller, S. (2008) The Impacts of local markets: A review of research on farmers markets and community supported agriculture (CSA). *American Journal of Agricultural Economics*. *90*(5), 1298-1302. doi: oi::1298-1302.l of Agricultural

Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Costanigro, M., McFadden, D. T., Kroll, S., & Nurse, G. (2011). An in-store valuation of local and organic apples: the role of social desirability. *Agribusiness*, *27*(4), 465-477. doi: oi::465-477. doi:

Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication,tio*(4), 51. Retrieved from http://search.proquest.com/docview/1302274657?accountid=10920

Festinger, L. (1962). *A theory of cognitive dissonance* theoed.). Stanford, CA: Stanford University Press.

Gbadamosi, A. (2009). Cognitive dissonance: The implicit explication in low-income consumers' shopping behaviour for iour for ognitive dissonance: The imp*International Journal of Retail & Distribution Management*, *37*(12), 1077-1095. doi 10.1108/09590550911005038

Goodwin, J. N. (2010). *Knowledge and perceptions of agriculture practices and legislation related to social influences as predictions of voting on agriculture policy.* (Master thesis). Retrieved from http://library.ohio-state.edu/search~S7?/aGoodwin%2C+Joy/agoodwin+joy/1%2C2%2C2%2CB/frameset&FF=agoodwin+joy+noel+1986&1%2C1%2C. (672000735)

Goodwin, J. N., Chiarelli, C., & Irani, T. (2011). Is perception reality? Improving agricultural messages by discovering how consumers perceive messages. *Journal of Applied Communications*, *95*(3), 21-33.

Guion, L. A., Diehl, D. C., & McDonald, D. (2009). *Triangulation: Establishing the validity of qualitative studies.* Retrieved from http://edis.ifas.ufl.edu/fy394

Hertog, J., & McLeod, D. (2001). A multiperspectival approach to framing analysis: A field guide. In Reese, S. D., Gandy, O. S., & Grant, A. E. (Eds.), *Framing public life: Perspectives on media and our understanding of the social world* (pp. 139-161). Mahwah, NJ: Erlbaum.

Hodges, A. W., & Stevens, T. J. (2013). *Local food systems in Florida: Consumer characteristics and economic impacts*. Gainesville, FL: University of Florida, Food and Resource Economics Department.

Hjelman, U. (2011). Consumers' purchase of organic food products. A matter of convenience and reflexive practices. *Appetite*, *56(*2), 336-344. Retrieved http://www.sciencedirect.com/science/article/pii/S0195666310008457#

Hunt, S. K. (2004). Theories of persuasion. In J. R. Baldwin, S. D. Perry & M. A. Moffitt (Eds.), Communication theories for everyday life (pp. 138-155). Boston, MA: Pearson Education, Inc.

Johnson, R., Aussenberg, R. A., & Cowan, T. (2013). *The role of local food systems in U.S. farm policy* (CRS Report No. R42155). Retrieved from Congressional Research Service Website: http://www.fas.org/sgp/crs/misc/R42155.pdf

Kaish, S. (1967). Cognitive dissonance and the classification of consumer goods. *The Journal of Marketing*, *31*(4), 28-31. Retrieved from http://www.jstor.org/stable/1249462

Keeling-Bond, J., Thilmany, D., & Bond, C. (2009). What influences consumer choice of fresh produce purchase location? *Journal of Agricultural and Applied Economics*, *41*(4), 61-74. Retrieved from http://ageconsearch.umn.edu/bitstream/48755/2/jaae162.pdf

Kitzinger, J. (1995). Qualitative research: Introducing focus groups. *BMJ (Clinical Research Ed.), 311*(7000), 299-302. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2550365/pdf/bmj00603-0031.pdf

Krueger, R.A. (1994). *Focus groups: A practical guide for applied research (2nd ed.)* Thousand Oaks, CA: SAGE Publications, Inc.

Kreuger, R. A. (2002). *Designing and conducting focus group interviews*. Retrieved from http://www.eiu.edu/~ihec/Krueger-FocusGroupInterviews.pdf

Lindsey-Mullikin, J. (2003). Beyond reference price: Understanding consumersng consumersonsumersonsumers0603-0031*Journal of Product and Brand Management, 12*(3), 140-153. doi 10.1108/10610420310476906

Lundy, L. K. (2006). Effect of framing on cognitive processing in public relations. *Public Relations Review*, *32*(3), 295-301. Retrieved from http://dx.doi.org/10.1016/j.pubrev.2006.05.021.

Martinez, S., Hand, M., Pra, M. D., Pollack, S., Ralston, K., Smith, T., … K., Smith, T., h, T., lston, K., Smith, T., ., Ralston, K., Smith, T *Economic Research Report.* (Report No. 97). Retrieved from books.google.com/books?isbn=9086861784

McQuail (2012). *McQuail'cQuail. 2012). 61784.google* (6th ed.). Thousand Oaks, CA: Sage Publications, Inc.

Meyers, C., & Abrams, K., (2010). Feeding the debate: A qualitative framing analysis of organic food news media coverage. *Journal of Applied Communication*, *94*(3&4), 22-36. Retrieved from http://journalofappliedcommunications.org/images/stories/issues/2010/JAC_v94_n3_n4_article2.pdf

Morgan, D. L. (1988). *Focus groups as qualitative research.* Newbury Park, CA: SAGE Publications, Inc.

Onozaka, Y., Nurse, G., & McFadden, D. T. (2010). Local food consumers: How motivations and perceptions translate to buying behavior. *Choices: The Magazine of Food, Farm and Resource Issues. 25*(1). Retrieved from http://www.farmdoc.illinois.edu/policy/choices/20101/2010103/2010103.pdf

Scheufele, D. (1999). Framing as a theory of media effects. *Journal of Communication*, 49: 103f Com doi: 10.1111/j.1460-2466.1999.tb02784.x

Timmons, D., Wang, Q., & Lass, D. (2008). Local foods: estimating capacity. *Journal of Extension,* 46(5), 1-11.

Zepeda, L., & Li, J. (2006). Who Buys Local Food? *Journal of Food Distribution Research*, *37*(3), 51 of Food Distribution Research Local Food? ods: estimating capacity.3/201010

Zepeda, L. & Nie, C. (2011). Lifestyle segmentation of US food shoppers to examine organic and local food consumption. *Appetite, 57*(1), 28-37. Retrieved from http://www.sciencedirect.com/science/article/pii/S01956663110011

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Exploring Ways Social Media Data Inform Public Issues Communication: An Analysis of Twitter Conversation during the 2012-2013 Drought in Nebraska

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Abstract

Social networking sites often are used to maintain close social ties, but increasingly they are used for information and news dissemination, specifically about major events and crises. In 2012, a historic drought struck the Midwest, destroying or damaging portions of major field crops in major agricultural production states. By the end of August 2012, 90% of Nebraska was declared in extreme or exceptional drought, leading to bans on irrigation, damaged crops, and record-low yields as well as damaging the state's leading economic sector. This case study used social media monitoring and analysis to explore online Twitter conversations related to this historic drought in Nebraska during a one-year period.

Researchers determined Twitter conversations increased in quantity as drought conditions worsened, and agricultural issues, environmental impact, extreme weather, effects on the public, and proposals of solutions to address drought were dominant themes among conversations. Twitter served as a news outlet for information and updates about drought conditions, and it contained information from local, national and international sources. The researchers suggest an opportunity exists for educational institutions and organizations to serve as leaders on social media and in social networks to disseminate timely and relevant information related to important public issues, while also monitoring and participating in surrounding discussions. Specifically, attention should be paid by public institutions to building brand equity through the use of concept marketing, audience engagement, use of big data, and thinking personally — strategies that have served private corporations well in monitoring issues of importance to their audiences.

Key Words

Drought, social media, Twitter, content analysis, communications, monitoring

Introduction

In the year marking the 25th birthday of the World Wide Web, it is evident the Internet has become embedded in daily life. More than 80% of U.S. adults report using the Internet, and the Pew Research Center has declared use of the Internet to browse the Web a significant activity for millions around the globe (Fox & Rainie, 2014). With the advent of social networking sites, users have become even more connected to, and through, the Web; as use increases, it has become evermore social and interactive. As of September 2014, more than 70% of online adults reported using social networking sites, and 52% used two or more networks frequently (Pew Research Center, 2015). Among the most popular social networks, Facebook dominates, followed by the career-focused LinkedIn, visually oriented Pinterest, and the microblogging platform Twitter (Pew Research Center, 2015).

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Social Media Connects Us

Research indicates social networking sites often are used to maintain close social ties. Contrary to what was once thought about individuals using the Internet and social platforms at high rates, the average social network user is less likely to be socially isolated from peers and users tend to get more support from their social ties via such networks (Pew Research Center, 2014). However, users do not limit use of these sites merely to maintaining contact with friends and family. Weeks and Holbert (2013) indicated social media not only allow users to stay engaged socially, but also they allow easy dissemination of a variety of message content to members of one's network. "What makes social media a unique platform for news is the ability it affords citizens to now act as efficient content distributors" (Weeks & Holbert, 2013). Thus, social media have a "dual nature," serving as both a conversation enabler and an information source for users (Veltri, 2013).

This may not come as a surprise when considering use of social media in significant world events, such as uprisings in Tunisia and Egypt during the spring of 2011. Lotan and colleagues (2011) studied the exchange and dissemination of news and information via Twitter during the Arab Spring. In their study, the researchers determined news was "co-constructed by bloggers and activists alongside journalists" during political events, illustrating a merge between traditional media sources and information exchanged by networks of citizens experiencing rather than reporting the news. Shirkey (2009) aptly noted social media has the potential to provoke and sustain political events by allowing users to amplify certain pieces of news and information.

Veltri (2013) noted the rise of the participatory Web and increase in social media use results in large amounts of user-generated content, which allows the public to play a significant role in knowledge translation, information generation, and amplification. No longer is using the Web to disseminate information a one-way method of communicating. Instead, social media outlets operate as interactive news platforms, helping users engage with content and information, creating their own aggregated versions of the day's news. According to Weeks and Holbert (2013), social media "are quickly emerging as an important and prominent outlet for news engagement" (p. 213). Bosch (2012) argued in the global South social media are increasingly important in the conversation about climate change, and with the growth of mobile technologies in South Africa particularly, the rise in use of social media to discuss issues such as climate change cannot be ignored.

In addition to serving as information and news dissemination tools, social media increasingly are used in crisis communication and health information management. During crisis events, especially health- and welfare-related events such as the 2009 H1N1 flu pandemic (Freberg, Palenchar, & Veil, 2013), the 2008 wildfires in California, and the 2010 earthquake in Haiti (Veil, Buehner, & Palenchar, 2011), social media platforms are employed to help manage unexpected situations with potential impacts on human health. In studying the H1N1 pandemic, Chew and Eysenbach (2010) employed what they termed an "infoveillance approach" and used social media to monitor the spread of information related to the outbreak on Twitter and in real time as a tool to measure public attention to the issue. In the medical community, Eckler, Worsowicz, and Rayburn (2010) determined not only do organizations use social media as a way to provide services and information to members but also they use these platforms to provide community outreach and patient education as well as to handle public relations situations. "The [I]nternet in general and social media in particular are changing health care" (Eckler, Worsowicz, & Rayburn, 2010, p. 1047).

Recent studies have explored use of social networking sites in monitoring public opinion about key public issues. Veltri (2013) noted social media outlets create a vast amount of potential data for use in analyzing dynamics of public opinion about a given issue. Veil, Buehner, and Palenchar (2011)

suggested monitoring social media as a strategy for managing perceptions related to crisis situations. Pang and Lee (2008) noted Twitter can be a helpful real-time data source, allowing data mining, aggregating and analysis immediately, reflecting on the ground events. "As a research instrument, [W]eb-based social media is suitable to give a general impression about public discourse towards diverse issues and can be seen as a mirror of society" (Boehm, Kayser, & Spiller, 2010, p. 597).

In a study focused on Twitter conversations related to the long-term issue of global climate change, Pearce, Holmberg, Hellsten, and Nerlich (2014) examined tweets related to the Intergovernmental Panel on Climate Change (IPCC) in the wake of the organization's Fifth Assessment Report, "the first comprehensive assessment of the physical science evidence for climate change since 2007" (p. 1). Results indicated public concerns in four primary areas by prevalence of hashtags related to science, political campaigns, geographical discussions (climate change in specific regions of the world — Australia, the U.S., and Canada), and societal concerns and new technologies, essentially treating climate change as a social issue. The researchers concluded the use of hashtags in individual tweets were aimed at making connections among groups involved in the debate and helping "to make the socially intangible phenomenon of climate change more tangible" (Pearce et al., 2014, p. 9).

Drought as a Public Issue

In terms of far-reaching domestic issues today, drought may not appear on the radar of a majority of the public. However, recent severe drought conditions in heavily agricultural regions of the country have the potential to affect multiple sectors of the American economy. National news coverage has detailed the devastating, multi-year drought in California focusing on desperate times in California's Central Valley, which grows upward of 230 different crop varieties and more than a third of all produce in the United States (Bittman, 2012). This historic drought has affected multiple economic sectors in California, from the cattle industry where ranchers have had to sell off significant portions of their herds to skiing and winter sports industries where, instead of snow-packed mountainsides, residents and business owners are threatened with extreme fire conditions not usually seen until summer months (Onishi & Wollan, 2014).

In 2012, a remarkable drought struck the Midwestern U.S., destroying or damaging portions of major field crops in states producing a significant portion of the country's corn and soybeans. Approximately 80% of agricultural land in the country experienced drought during 2012, making it the most extensive and damaging dry period since the 1950s (USDA Economic Research Service, 2012). A striking aspect of the 2012 drought was how rapidly it increased in severity during the month of July, a critical time for crop development (USDA Economic Research Service, 2012).

In Nebraska, agriculture is the primary economic driver and puts the state fourth, behind only California, Texas, and Iowa, in terms of agricultural output (U.S. Department of Agriculture, National Agricultural Statistics Service, 2013). Cash receipts from farm products such as corn, soybeans, and red meat contributed more than $21 billion to Nebraska's economy in 2011 (Nebraska Department of Agriculture, n.d.). In 2012, Nebraska was hit particularly hard by drought. As of the end of August 2012, 90% of the state was declared under extreme or exceptional drought conditions, the two most severe designations (National Drought Mitigation Center, n.d.), leading to bans on irrigation, damaged crops, and record-low yields.

Theoretical Framework

The present study was grounded in a theoretical framework combining uses and gratifications theory, diffusion of innovations with a focus on opinion leaders, and framing theory. A popular choice

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in explaining how people choose and use media, uses and gratifications theory was developed in part as a reaction to previous work assuming media users were passive and susceptible to direct effects of media messages. Katz, Blumler, and Gurevitch (1974) developed their approach to explain and understand why individuals choose certain media to satisfy their needs and wants. Katz and colleagues (1974) suggested using media helps strengthen understanding of self and society as well as ties with friends and family. Rubin (2009) asserted individuals initiate selection and use of different media based on a number of social and psychological factors, and media compete with other forms of communication, such as interpersonal interaction, for users' time and attention. Rubin noted the theory was designed to explore how users' needs are met by using certain types of media and to understand motives behind media behavior.

Ruggiero (2000) stated "uses and gratifications has always provided a cutting-edge theoretical approach in the initial stages of each new mass communications medium: newspapers, radio, and television, and now the Internet" (p. 3). Indeed, the theory now lends itself well to the study of social media. Gil de Zuniga, Jung, and Valenzuela (2012) employed uses and gratifications to online environments and determined those who seek information via social networks have more social capital and tend to participate to a greater degree in civic and political events than those who do not use social networks for information seeking.

As a second theoretical underpinning, Rogers' (2005) diffusion of innovations theory explains adoption of a particular innovation depends on three elements: personal characteristics of the adopter, characteristics of the innovation itself (such as perceived ease of use), and characteristics of the environment in which the adoption occurs. Those who adopt technological innovations in the earliest stages, called *innovators*, are seen as leading sources of opinion. *Early adopters*, immediately following innovators, may have a slightly slower rate of adoption but also function as opinion leaders; individuals in these groups are those to whom other groups look to for advice and information specifically related to the innovation.

Opinion leaders play an important role in diffusing information related to an innovation; in the case of the present study, the innovation is use of social media to participate in discussion related to and monitor a public issue. Ma, Lee, and Goh (2013) determined opinion leadership was the strongest factor predicting users' sharing of news and "individuals strive to share news to establish their influential positions as opinion leaders" (p. 404). Thus, sharing news via social media may be a way for users to accrue online social capital.

The final pillar of this study is framing theory, which posits the way in which a message is framed and the symbols, images, and words chosen to communicate an idea indicate to audiences how the message should be interpreted. "Frames are *organizing principles* that are socially *shared* and *persistent* over time, that work *symbolically* to meaningfully *structure* the social world" (Reese, 2003, p. 11). Goffman (1974) asserted humans actively classify, organize, and interpret life experiences in order to make sense of them and these schemata of interpretation, which are essentially frames, help us "locate, perceive, identify, and label" information for better understanding (p. 21). Entman (1993) suggested frames are found in four locations in the communication process: in the mind of the message creator, in the text of a message, in the mind of the receiver, and in culture, where culture is defined as society's public discourse. Framing researchers have acknowledged frames enable message creators to categorize information quickly and efficiently and package it in a way that can be best understood by audience members, providing a kind of mental map for interpretation (Dunwoody, 1992; Gitlin, 1980). Prior to the popularity of the World Wide Web, the Internet, and social media, this function was primarily limited to journalists.

Framing has been studied in numerous contexts, most notably within mediated mass communication. While a wealth of framing research exists, to date only a small number of studies have been conducted combining framing theory and social media. However, the body of research linking framing theory and social media is growing, with three studies of note.

Liu and Kim (2011) explored organizations' framing of messages related to the 2009 H1N1 pandemic flu, investigating responses disseminated via both traditional and social media. The researchers noted, "the digital age allows researchers to now identify how organizations frame their messages for the public" by using social media to communicate directly, rather than relying on traditional media (Liu & Kim, 2011, p. 235). Traditional and social media messages released by 13 organizations during a month-long period were collected from organizations' official websites, Facebook pages, and Twitter feeds. Analysis indicated framing differences existed between messages on social and traditional media; organizations used disaster, health crisis, and general health issue frames more in traditional media outlets than in social media outlets but tended to use social media outlets as often as traditional media outlets when employing a general crisis frame.

Wasike (2011) explored framing in news stories posted on social news sites Reddit and Digg and determined most popular among the frames employed in posted stories were those with a human-interest theme. This illustrates a departure from previous research indicating readers' dominant interests lie in stories of disaster and financial news. Veltri (2013) used framing theory to inform a study analyzing more than 24,000 tweets related to nanotechnology and discovered that while nanotechnology itself was not a popular topic of conversation on Twitter, information related to nanotechnology was shared by a small number of "power users," or highly networked individuals. Additionally, in analyzing the tweets, Veltri discovered more than 90% were new messages, while 7 percent were re-tweets, and 1 percent were mentions. A total of 94% of tweets included website links, illustrating a preference among users for "forwarding" information instead of merely making original comments. In noting the study's limitations, Veltri commented often social media users, Twitter users specifically, tend to use communications technology readily and have large networks of people with whom they discuss important matters. According to Veltri:

> These new arenas constitute a vast pool of potential data for analyzing public opinion dynamics regarding the public understanding of science and risk perception. Social media are now a key source of data as new opinion-tracking methods such as mining, aggregating and analyzing online data in real time have become available. (p. 846)

Purpose and Objective

Given the above framework linking uses and gratifications, diffusion of innovations, and framing theories, the purpose of this qualitative case study analysis was to examine Twitter conversation focusing on drought in Nebraska during the period of time designated as extreme or exceptional drought by The National Drought Mitigation Center. A single research objective was used to guide the study:

> Describe the public Twitter conversation related to drought in Nebraska between July 11, 2012, and July 11, 2013.

Methods

The enormous amount of data generated by social media acts as the single largest source of unsolic-

ited public opinion available (Pew Internet & American Life Project, 2012). Industry professionals describe social media data as a massive, real-time focus group (Crimson Hexagon, n.d.) without the key downside of traditional focus groups: peer pressure and controlled environments normally leading to expected responses rather than honest views. Research using social media data must employ qualitative methodologies to explore why and how users discuss important topics online. For this study, a constructivist worldview guided the selection of a case study approach to investigate the online (Twitter) conversation regarding drought during a period of extreme drought in Nebraska. Case study research is a qualitative research method "in which the investigator explores a bounded system … and reports a case description and case-based themes" (Creswell, 2007, p. 73).

A review of records from the U.S. Drought Monitor showed the period of July 11, 2012, through July 11, 2013, as a time where Nebraska experienced the longest sustained period of extreme drought conditions in the past century. As a result, drought impacts were widespread and continuously reported in the news. This time frame thus served as an opportune data collection period to review conversations on Twitter surrounding drought. Tweets were collected using the Sysomos MAP system from Marketwired to ensure rapid and complete collection of data. A Boolean search query was constructed to gather data:

> drought AND NOT (football OR [sports team] OR espn) AND (Nebraska OR crops OR agriculture) with Nebraska

The above search served as a filter to eliminate Tweets not referring to drought related to lack of rain. For example, many Tweets during the fall referred to Nebraska sports where athletes went on a *scoring drought*. The Boolean search query combined keywords using operators such as AND, OR, and NOT, to provide relevant search results. Multiple search queries were run to identify and optimize the final Boolean search keywords and operators.

The search yielded a total of 2,834 individual tweets, 30 of which were removed due to sports references not filtered out by the Boolean constructed search. Twitter data were imported in MAXQDA and coded in vivo to identify emergent themes, which were used to develop a rich narrative describing the Twitter conversation related to the drought.

Stake (1995) suggested data source triangulation as a validation strategy. Triangulation was used in this study to validate findings between researchers' individual codes and themes, and Sysomos MAP software provided additional data analysis and visualizations. These methods were all used to explore the Twitter communities' experience of the drought in Nebraska. Additionally, the U.S. Drought Monitor website provided drought condition data and definitions to build a timeline of events (see Figure 1). The timeline created visualizes data from both Twitter and the U.S. Drought Monitor to illustrate volume and themes of online conversations during the period of analysis.

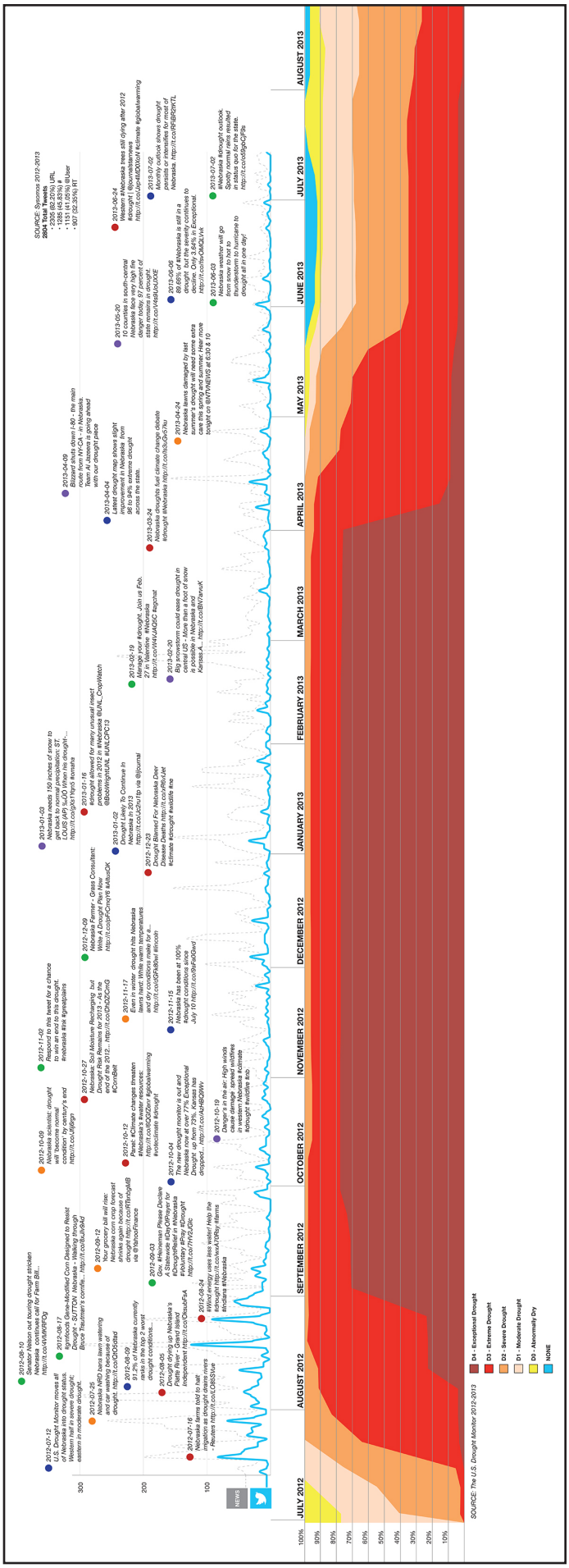

Figure 1. Timeline of Events on Twitter and U.S. Drought Monitor (July 11, 2012, to July 11, 2013

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Findings

The Twitter and U.S. Drought Monitor timeline (see Figure 1) demonstrated an increase in tweets published as the drought worsened. As winter months set in, however, and drought conditions were perceived as less severe, conversation on Twitter decreased despite traditional news outlets' continued reporting on difficult drought conditions. The following section describes emergent themes highlighting the breadth of Twitter discussions about drought.

Anticipated themes included likely *agricultural issues,* such as crop damage, livestock disease, water issues, and economic impacts. As expected, *Twitter served as a news outlet* for information on drought status and conditions while it also contained reports of data from local, national, and international sources. Unexpectedly, extensions of these themes crept into tweets about *environmental impact* that discussed climate change issues, promotion of wind energy, and danger to wildlife. A surprising subset of this theme was discussion of *extreme weather* such as lightning strikes that sparked wildfires in Nebraska, while rain or snow in winter months yielded speculation of the drought's possible end. Unexpected themes also involved *effects on the public,* such as increases in food bills, witnessing extremely dry landscapes, and gardening during drought. *Proposals of solutions* to address drought also emerged, such as a day of prayer, grants for recovery efforts, preparations for drought as a new norm, the use of humor to lighten the mood of the situation, and effective management strategies to handle effects of drought.

Twitter as a News Outlet

As expected, *Twitter served as a news outlet* for information on drought conditions and contained reports of data from local, national, and international sources. Numerous organizations and individuals reported on the *latest conditions*. For example, "Drought claims almost every inch of Nebraska" was a simple description of the conditions. On the other hand, many reported from sources, such as "US Drought Monitor: 83% of Nebraska is in extreme/exceptional drought an increase from 64% in just 1 week." As the drought worsened, tweets increasingly revolved around severe conditions.

In winter months, or any other perceived period of relief from the drought, tweets often provided *rainfall and snowfall information:* "Rain and snow this coming week will put a big dent in the Nebraska drought. #agwx #sdwx #newx #weather." However, even in winter, Twitter users pointed out the amount of precipitation needed was extremely high. One user stated, "Charts show the staggering rainfall deficit in #drought stricken Nebraska #climate." Users understood precipitation was needed, but *misconceptions* triggered false alarms about the drought's end and fueled speculation during periods of rain or snowfall. Questions were raised: "Has Recent Rain And Snow Ended the Drought in Nebraska?" Every little bit of precipitation was scrutinized and speculated over as enough to end the drought: "Good news: Thanks to recent rain and snow #Nebraska's drought condition is improving."

Historical references and information provided a *drought history* to help frame the current situation. One tweet compared past droughts in the state: "1934 drought vs. 2012 #drought in the Nebraska prairie" As drought extended over the winter months and continued into spring, reports of *lasting effects* and eventually *news about relief* efforts to ease the impact left on Nebraska emerged. Many tweets and stories revolved around impact on agriculture in the state: "Report anticipates smallest Nebraska wheat crop since 1944 via @OWHnews #txwater #drought."

1. Twitter as a News Outlet	
Latest Conditions	Drought claims almost every inch of Nebraska. US Drought Monitor: 83% of Nebraska is in extreme/exceptional drought an increase from 64% in just 1 week. 91% of Nebraska is now in extreme or exceptional drought up slightly from last week. #drought12 All Nebraska counties now in national drought disaster area according to #USDA. #NRCS programs help
Precipitation Information	Rain and snow this coming week will put a big dent in the Nebraska drought. #agwx #sdwx #newx #weather Extraordinary snowfall needed to relieve drought: ST. LOUIS (AP) -- When his drought-stricken Nebraska farm… Charts show the staggering rainfall deficit in #drought stricken Nebraska #climate
Misconceptions	Has Recent Rain And Snow Ended the Drought in Nebraska? Good news: Thanks to recent rain and snow #Nebraska's drought condition is improving.
Drought History	Report anticipates smallest Nebraska wheat crop since 1944 via @OWHnews #txwater #drought Drought 2012: Is History Repeating Itself? http://t.co/orLbkMmQ via @luannschindler #Nebraska Scorched earth - the BBC travels to #Nebraska in the midst of an historic #drought where ranchers and farmers despair 1934 drought vs. 2012 #drought in the Nebraska prairie

Figure 1: Twitter as a New Outlet Example Tweets

Agricultural Issues

Agricultural impact such as crop damage, livestock disease, water issues, and economic problems were common among observations on the drought's impact on the region's agricultural industry. For example, "Crops in Nebraska Deteriorate: Drought conditions continue to stress corn beans and pastureland." Such tweets led to comments about how crop damage affects feed costs: "Drought Means Higher Feed Costs For Ranchers Next Year." These impacts continued to grow and worsened over time, resulting in a swath of tweets offering solutions and relief beyond waiting for precipitation due to the realization that drought would continue longer than expected: "Nebraska farmers advised to plan for more drought."

As Nebraska's economy is heavily dependent on agriculture, discussions about *economic impact* were expected and were indeed a central topic of discussion throughout the year. State and regional economic effects were of primary concern: "Drought costs Nebraska corn crop nearly a quarter billion dollars – Rapid City Journal" (Rapid City is located in South Dakota). However, the impact was felt well beyond the state border: "Chinese need assurance that Midwest crops will survive drought: Nebraska."

Furthermore, farmers in the state rely primarily on *irrigation* to produce crops. This in turn

yielded tweets related to new water usage policies and strategies implemented during the drought. At one point farmers were ordered to stop irrigating: "This is getting scary. Farmers forced to stop irrigating because of low river levels. #drought #Nebraska #climate." As irrigation halted, livestock health became an issue. Nebraska is also known for *beef production,* and concerns were raised about livestock conditions and mitigation strategies offered. Measures were taken to survive the drought: "Drought forces Nebraska cattlemen to thin herds." However, drought created additional animal health problems: "Drought brings untreatable disease to Nebraska cattle."

2. Agricultural Issues	
Agricultural Impact	Crops in Nebraska Deteriorate: Drought conditions continue to stress corn beans and pastureland. Lost our 8,000 acre fall corn job in central Nebraska! #drought. The farmer is going to make corn hay! Worse than experts say! #agchat Drought Means Higher Feed Costs For Ranchers Next Year Nebraska farmers advised to plan for more drought
Economic Impact	Chinese need assurance that Midwest crops will survive drought: Nebraska USDA cuts corn-crop estimate as drought hurts yields Drought costs Nebraska corn crop nearly a quarter billion dollars - Rapid City Journal
Irrigation	Drought prompts state to send water shut-off notices to 300 southeast Nebraska Farmers who irrigate have been ordered to stop because of drought conditions This is getting scary. Farmers forced to stop irrigating because of low river levels. #drought #Nebraska #climate
Beef Production	Drought forces Nebraska cattlemen to thin herds Brian Fuchs of the Drought Mitigation Center tells @NBCNewsBusiness the meat industry will be hard-hit by #drought Drought brings untreatable disease to Nebraska cattle

Figure 2: Agricultural Issues Example Tweets

Environmental Impact

The *environment* emerged as a popular topic during the analysis period, as well. Often, tweets reported observations of dry riverbeds and land: "Wow, just saw a very large river bed and no river in Nebraska. First sign of the drought. :(." Along with personal accounts, humor was used to cope with the severity of the conditions: "Nebraska is 500 miles of dead corn and dry rivers." Calls were made to Washington, D.C., to push for an approved farm bill: "The drought has definitely taken a toll on habitat in Nebraska. #FarmBillNow."

Wildfires, extreme weather and *other effects on the environment* also were reported, including effects on wildlife and insects and tree stress. Drought created ideal conditions for wildfires: "Lightning sparks Nebraska wildfire amid drought - Chicago Tribune." Wildlife were reported as suffering from drought: "Drought Blamed For Nebraska Deer Disease Deaths: Nebraska's continuing drought is being blamed for a bi …"

Somewhat surprisingly, the *Keystone XL pipeline* emerged as a hot topic in relation to drought conversation. Users saw the drought as an opportunity to connect water issues to the proposed pipeline and potential dangers posed to the Ogallala Aquifer, which is located underneath the majority of the state: "Nebraska report says #Keystone XL still crosses #aquifer and 100% of Nebraska is in extreme #drought. #NoKXL #water @reuters." Such tweets took advantage of the conversation to highlight possible environmental impacts while injecting humor about better ways to use the pipeline: "Idea: Repurpose #KeystoneXL to carry Arctic meltwater! #noKXL RT @heidicullen 70% of Nebraska under at least extreme drought conditions."

Effects on the Public

3. Environmental Impact	
Environment	Nebraska River levels dangerously low: Rivers and streams across Nebraska are drying up due to drought exposing... Wow, just saw a very large river bed and no river in Nebraska. First sign of the drought. :(Nebraska is 500 miles of dead corn and dry rivers The drought has definitely taken a toll on habitat in Nebraska. #FarmBillNow
Wildfires and Extreme Weather	Lightning sparks Nebraska wildfire amid drought - Chicago Tribune Even with #declines due to drought Nebraska is still a top destination for pheasant hunters! Drought Blamed For Nebraska Deer Disease Deaths: Nebraska's continuing drought is being blamed for a bi... Drought keeping grasshopper numbers low in parts of Nebraska A Nebraska Forest Service official says the drought has put extreme stress on trees and shrubs
Keystone Pipeline	Nebraska report says #Keystone XL still crosses #aquifer and 100% of Nebraska is in extreme #drought. #NoKXL #water @reuters Idea: Repurpose #KeystoneXL to carry Arctic meltwater! #noKXL RT @heidicullen 70% of Nebraska under at least extreme drought conditions

Figure 3: Environmental Impact Example Tweets

As Twitter is a sounding board for all manner of voices (individuals and organizations), tweets often expressed views from non-agricultural entities reflecting about how drought affected their lives, often focusing on an *increase on prices*. Many of the problems caused by drought initially impacted the agricultural sector but quickly began affecting the general population. Food prices were expected to increase as a result of the drought: "Drought Impacting Grocery Store Prices: The current drought we're in isn't just affecting us here in Nebraska." Price hikes at the gas pump were attributed to widespread drought conditions: "Drought may also be behind rising gasoline prices in Nebraska."

W*ater usage in the home* also became a statewide issue: "Drought or no drought many Nebraska communities face challenges finding adequate water." Water restrictions in much of the state's cities and towns were reported: "Water restrictions bloom across Nebraska in drought." With restrictions emerged discussions about *lawn and garden issues*: "Even in winter drought hits Nebraska lawns hard:

While warm temperatures and dry conditions make for a …" In turn, advice was offered to homeowners about how to manage properties: "Ways to save lawn garden and trees during drought: Even though parts of Nebraska could see some rain today …"

4. Effects on the Public	
Increase on Prices	Drought Impacting Grocery Store Prices: The current drought we're in isn't just affecting us here in Nebraska Drought may also be behind rising gasoline prices in Nebraska
Home Water Usage	Water usage rises with temps dry conditions Drought or no drought many Nebraska communities face challenges finding adequate water. Water restrictions bloom across Nebraska in drought
Lawn and Garden	How to deal with lawn / plant drought stress in #Nebraska Ways to save lawn garden and trees during drought: Even though parts of Nebraska could see some rain today… Even in winter drought hits Nebraska lawns hard: While warm temperatures and dry conditions make for a...

Figure 4: Effects on the Public Example Tweets

Proposals of solutions

Proposals of solutions to address drought also emerged, such as a day of prayer, grants for recovery efforts, preparations for drought as a norm, the use of humor to lighten the mood of the situation, and effective strategies to handle effects of drought. Requests for donations were posted: "Donations for Nebraska drought & fire relief can be made at [URL] #drought." Also, the drought became a case-in-point, highlighting the need for Congress to enact a Farm Bill: "Pause in cybersecurity bill discussion to talk about drought in Nebraska and inaction on another bill the Farm Bill." Other initiatives and scientific innovations were offered as ways to combat drought conditions. A statewide day of prayer was also suggested: "PLS RT @kfabnews @Gov_Heineman Please Declare A Statewide Day of Prayer for Drought Relief in Nebraska."

The drought left some *wishing for water* in strange, peculiar, and humorous ways. One user stated: "Hoping for rain always. #Nebraska #drought #justlikelastyear #andtheyearbefore #aaaandtheyearbeforethat." Others highlighted struggles using humor: "The drought is so bad in Nebraska residents of the state have started calling watermelons 'dustmelons.'" Furthermore, tweets became requests for precipitation — "Hey Kansas! Send some of that snow up here! Nebraska needs 10 feet to fix our drought!" — even going so far as to make a game out of tweeting to end the drought: "Respond to this tweet for a chance to win an end to this drought."

5. Proposals of Solutions	
Suggestions	Donations for Nebraska drought & fire relief can be made at [URL] #drought Pause in cybersecurity bill discussion to talk about drought in Nebraska and inaction on another bill the Farm Bill. Nebraska NRCS Offers Initiative to Aid Drought Recovery #gmfoods Gene-Modified Corn Designed to Resist Drought - Nebraska -- Walking through Bruce Trautman's cornfield. PLS RT @kfabnews @Gov_Heineman Please Declare A Statewide Day of Prayer for Drought Relief in Nebraska Are you worried about #Drought? Attend the Risk Management Seminar Feb. 21
Wishing for Water	Hoping for rain always. #Nebraska #drought #justlikelastyear #andtheyearbefore #aaaandtheyearbeforethat The drought is so bad in Nebraska residents of the state have started calling watermelons 'dustmelons.' Hey Kansas! Send some of that snow up here! Nebraska needs 10 feet to fix our drought! Respond to this tweet for a chance to win an end to this drought.

Figure 5: Proposals for Solutions Example Tweets

Discussion and Recommendations

The breadth and variety of discussion about drought during the time period of study was surprising. While data indicated a broad spectrum of topics in Twitter conversations about this period of agricultural and environmental stress, media coverage and academic reports were at the center of Twitter discussions. A majority of tweets in the period of analysis included links to government and academic websites serving as sources of information about drought conditions.

Academic institutions, specifically land-grant institutions, have an obligation to serve citizens through education, service, and research. Interestingly in this study, beyond the occasional announcement or public event related to drought, universities such as the state land-grant institution were surprisingly absent from the discussion on Twitter. Consequently, an opportunity exists for educational institutions and organizations to serve as opinion leaders using social media and social networks to disseminate timely and relevant information, while also monitoring and participating in discussions surrounding important public issues to aid in building community.

A practical and information-focused social media policy, where trust is built through interesting, entertaining, and informative content over time will enable university organizations to become influencers and opinion leaders on such public issues. Data in this study from state organizations served little more purpose than as bulletin board announcements. Efforts to stand out among the din on social networks with quality, credible information from educational institutions and land-grant universities will set the stage for increased public engagement on important topics.

Roger's (2003) diffusion of innovations theory provides a model for organizations to leverage ways in which early technological adopters approach analysis of social media data, classified by some as "big data." The concept of content marketing provides a framework for institutions to get started. A number of strategies can be integrated so institutions are established as thought leaders on so-

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cial networks, providing timely information about complex and important issues facing the public. Strategies based on such analysis include building brand equity through content marketing, audience engagement, the use of big data, and thinking personally.

Building brand equity through content marketing. Organizations must plan social media presence and strategy by implementing a purposefully developed editorial calendar and practicing active listening to social media environs. An excellent (now classic) example of the active listening approach's success was Oreo's "dunk in the dark" tweet during the 2013 Super Bowl electricity outage. During the outage, Oreo's social media team created a clever graphic that became shared widely on Twitter and other social networks. Such widespread advertising was possible because the Oreo brand had a team monitoring a major event (the Super Bowl) on social media and social networks, keeping a pulse on the event and conversations online and enabling an almost real-time response with relevant content interesting to the audience.

Audience engagement through active monitoring and tracking of trends via social media allows organizations to understand online, real-time conversations in order to act authentically when the times comes to interject ideas into the conversation. Properly done, building on content-marketing efforts allows organizations to build brand equity and lead audiences to consider the institution for accurate, authentic, and interesting content — in other words, possibly being considered opinion leaders. Leading brands, such as Dell and Gatorade, have specially designed social media centers, which actively monitor and respond to customers as comments and concerns are posted. Companies such as Jet Blue and Best Buy even use Twitter as a customer service platform to actively respond to customer issues related to products or services. Audience engagement in this manner can and should be adapted for use by academic institutions.

Use of big data and analysis of past events will allow organizations a chance to put strategize about effective approaches to issues and topics of concern to audiences. In the case of severe drought such as the one used for the basis of this study, a university need not wait for the next severe incident to plan its approach. Historical social media data can help institutions prepare materials and initiatives to help mitigate issues. Commercial strategic communicators have used this strategy for years with traditional information and marketing campaigns, analyzing results and crafting subsequent strategies. With the advent of digital and interactive media, one byproduct is the enormous amount of data that must be analyzed quickly and efficiently. More importantly are insights and tactics must be extracted from the data and put into place for future efforts.

Finally, organizations such as academic institutions need to *think personally* and attempt to frame conversations in more personal ways. Social media are inherently personal platforms and can level the playing field for voicing a variety of thoughts and opinions. By using social media, universities and organizations large and small all have a platform to voice ideas, regardless of budgets and prestige. Academic institutions possess a wealth of faculty experts — genuine opinion leaders who may provide more authentic perspectives and aid in personalizing online conversations. In the case of the present study, instead of organizations tweeting purely factual information, consider how experts in water usage and conservation might have become trusted voices for key information during the drought. Institutions should work with and provide support for such experts to make complex issues more personal.

Many of the approaches outline above are used commonly in the communications industry, but room exists for their use in non-profit, education, and outreach organizations, that seem to be, at least in the case of the drought year studied here, missing opportunities to become trusted leading sources of information for new audiences through effective use of social media.

Recommendations for additional research include actively monitoring social media, especially Twitter, to track and establish trend benchmarks for public issues in addition to drought. Monitoring trends allows organizations to identify influencers, contribute information, and correct misinformation regarding the framing of a particular issue. Tracking trends and participating in online discussion allows organizations to actively engage in framing the event in the public's mind.

Limitations of this study include the de facto nature of case study research where results and findings cannot be generalized. However, this case study does provide a first look at types of public issues organizations may address through social media data and analysis. Additionally, the study is limited by the use of Twitter as the sole social network for data. In a dynamic, online environment, future research should look at the interaction and mix of media, traditional and social, to gain a more holistic view of how public issues are discussed online. Future research also should explore other types of public issues, such as climate change, economic downturns, food safety, health epidemics, and other common issues that affect the public.

Analysis of social media data, in combination with other data, can help public organizations set, execute, and assess strategies and objectives, which will help more effectively reach public audiences. This study provided an analysis of a single, year-long issue and how the online conversation unfolded on Twitter. Drought affected all aspects of life in Nebraska, revealing a breadth of conversations around a single public issue and multiple opportunities for organizations, specifically government agencies and the state's land-grant university, to actively engage public audiences by providing relevant facts, resources, strategies, and other content.

This project is a first step in examining public issues online. More case studies may help establish patterns, which can inform development of public issues modeling via online and social media conversations.

References

Bittman, M. (2012, October 12). Everyone eats there. *The New York Times.* Retrieved from http://www.nytimes.com/2012/10/14/magazine/californias-central-valley-land-of-a-billion-vegetables.html?_r=0

Boehm, J., Kayser, M., & Spiller, A. (2010). Two sides of the same coin? Analysis of the web-based social media with regard to the image of the agri-food sector in Germany. *International Journal on Food System Dynamics, 1*(3), 594-610.

Bosch, T. (2012). Blogging and tweeting climate change in South Africa. *Equid Novi: African Journalism Studies, 33*(1), 44-53.

Chew, C., & Eysenbach, G. (2010). Pandemics in the age of twitter: Content analysis of tweets during the 2009 H1N1 outbreak. *PLOS One, 5*(11), 1-13. doi: 10.1371/journal.pone.0014118 Retrieved from: http://www.plosone.org/article/info%3Adoi %2F10.1371%2Fjournal.pone.0014118#pone-0014118-g015

Creswell, J. (2007). Qualitative inquiry & research design: Choosing among five approaches (2nd ed.). Thousand Oaks, CA: Sage.

Crimson Hexagon. (2015). *Social media analytics using the world's largest focus group*. Retrieved from: http://www.crimsonhexagon.com/

Dunwoody, S. (1992). The media and public perceptions of risk: How journalists frame risk stories. In D. W. Bromley & K. Segerson (Eds.), *The Social Response to Environmental Risk* (pp. 75-100). Boston, MA: Kluwer Academic Publishers.

Eckler, P., Worsowicz, G., & Rayburn, J. (2010). Social media and healthcare: An overview. *Practice Management, 11*(2), 1046-1050.

Entman, R. M. (1993). Framing: Toward Clarification of a Fractured Paradigm. *Journal of Communication*, *43*(4), 51-58. Oxford University Press. Retrieved from http://www.blackwell-synergy.com/doi/abs/10.1111/j.1460-2466.1993.tb01304.x

Fox, S., & Rainie, L. (2014). The web at 25 in the U.S. The Pew Research Internet Project. Retrieved from http://www.pewinternet.org/2014/02/27/the-web-at-25-in-the-u-s/

Freberg, K., Palenchar, M., & Veil, S. Managing and sharing H1N1 crisis information using social media bookmarking services. *Public Relations Review, 39*(3), 178-184.

Gil de Zuniga, H., Jung, N., Valenzuela, S. (2012). Social media use for news and individuals' social capital, civic engagement and political participation. *Journal of Computer-Mediated Communication, 17*(3), 319-336.

Gitlin, T. (1980). The whole world is watching. Mass media in the making & unmaking of the new left. Berkeley, CA: University of California Press.

Goffman, E. (1974). Frame analysis: An essay on the organization of experience. Cambridge, MA: Harvard University Press.

Katz, E. Blumler, J. G., & Gurevitich, M. (1974). Utilization of mass communication by the individual in Jay G. Blumler and Elihu Katz, eds. *The uses of mass communications: Current perspectives on gratifications research.* Beverly Hills, CA: Sage.

Liu, B., & Kim, S. (2011). How organizations framed the 2009 H1N1 pandemic via social and traditional media: Implications for U.S. health communicators. *Public Relations Review, 37*(3), 233-244.

Lotan, G., Graeff, E., Ananny, M., Gaffney, D., Pearce, I., & Boyd, D. (2011). The revolutions were Tweeted: Information flows during the 2011 Tunisian and Egyptian revolutions. *International Journal of Communication, 5*, 1375-1406.

Ma, L., Lee, C. S., Goh, D. (2011). That's news to me: The influence of perceived gratifications and personal experience on news sharing in social media. *Journal of Digital Information, 141-144.*

National Drought Mitigation Center (n.d.) *U.S. Drought Monitor Maps and Data*. Retrieved from: http://droughtmonitor.unl.edu/MapsAndData.aspx

Nebraska Department of Agriculture (n.d.) *Nebraska Agriculture*. Retrieved from http://www.nda.nebraska.gov/publications/ne_ag_facts_brochure.pdf

Onishi, N., & Wollan, M. (2014, January 17). Severe drought grows worse in California. *The New York Times*. Retrieved from http://www.nytimes.com/2014/01/18/us/as-californias-drought-deepens-a-sense-of-dread-grows.html?_r=0

Pang, B., & Lee, L. (2008). Opinion mining and sentiment analysis. *Foundations and Trends in Information Retrieval, 2*(1 & 2), 1-135. doi: 10.1561/1500000001

Pew Research Center. (2014) *Social networking fact sheet.* Retrieved from http://www.pewinternet.org/fact-sheets/social-networking-fact-sheet/

Pew Research Center. (2015). *Social media update 2014*. Retrieved from http://www.pewinternet.org/2015/01/09/social-media-update-2014/

Pearce, W., Holmberg, K., Hellsten, I., & Nerlich, B. (2014). Climate change on Twitter: Topics, communities and conversations about the 2013 IPCC Working Group 1 Report. *PLOS One, 9*(4), 1-11.

Reese, S. D. (2003). Prologue-Framing public life: A bridging model for media research. In S. D. Reese, O. H. Gandy, & A. E. Grant (Eds.), *Framing public life* (pp. 7-32). Mahwah, NJ: Lawrence Earlbaum Associates.

Rogers, E. (2003). *Diffusion of innovations, 5th ed*. New York: Simon & Schuster.

Rubin, A. (2009). The uses and gratifications perspective of media effects. In J. Bryant & D. Zillman (Eds.), *Media effects: Advances in theory and research, 3rd ed.* (525-548). Hillsdale, NJ: Lawrence Erlbaum Associates.

Ruggiero, T. E. (2000). Uses and gratifications theory in the 21st Century. *Mass Communication & Society, 3*(1), 3-37.

Shirky, C. (2009, December 11). The net advantage. *Prospect Magazine.* Retrieved from http://www.prospectmagazine.co.uk/2009/12/the-net-advantage

Stake, R. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.

U.S. Department of Agriculture, National Agricultural Statistics Service (2013). *2013 state agriculture overview: Nebraska*. Retrieved from http://www.nass.usda.gov/Quick_Stats/ Ag_Overview/stateOverview.php?state=NEBRASKA

U.S. Department of Agriculture, Economic Research Service. (2013, July 26). *U.S. drought 2012: Farm and food Impacts.* Retrieved from http://www.ers.usda.gov/topics/in-the-news/us-drought-2012-farm-and-food-impacts.aspx.

Veil, S., Buehner, T., & Palenchar, M. (2011). A work-in-progress literature review: Incorporating social media in risk and crisis communication. *Journal of Contingencies and Crisis Management, 19*(2), 110-122.

Veltri, G. (2013). Microblogging and nanotweets: Nanotechnology on Twitter. *Public Understanding of Science, 22*(7), 832-849.

Wasike, B. (2011). Framing social news sites: An analysis of the top ranked sotires on Reddit and Digg. *Southwestern Mass Communication Journal, 27*(1), 57-68.

Weeks, B., & Holbert, R. (2013). Predicting dissemination of news content in social media: A focus on reception, friending, and partisanship. *Journalism & Mass Communication Quarterly, 90*(2), 212-232.

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Research

U.S. Agricultural Commodity Organizations' Use of Blogs as a Communications Tool

Madeline L. Moore, Courtney Meyers, Erica Irlbeck, and Scott Burris

Abstract

Current communications trends and social media have given individuals and organizations unprecedented opportunities to build relationships with audience members while introducing and encouraging new perspectives. One particular form of social media is blogging, which allows people to share a wider variety of information than other forms of social media. The purpose of this study was to explore how agricultural commodity organizations use blogs as a communication tool. The researchers purposively selected nine U.S. agricultural commodity groups that had an organizational blog and collected data through in-depth interviews. The findings indicated the organizations started blogging because blogs were the newest communication tool they could use to reach new and traditional audiences. The commodity organizations used some online analytics and mentions on other social media outlets to measure blog success, but they did not establish goals for their blog prior to the blog's launch. The findings offer an understanding of how agricultural commodity organizations are utilizing blogs, which provides insight for others in the agricultural industry who may decide to use this technology.

Key Words

Social media, online communication, farmers, ranchers

Introduction and Literature Review

Current communications trends and social media have changed how individuals interact and how they prefer to receive information. In the United States, adults are increasing adopting mobile technologies — 90% have a cell phone and 58% have a smartphone (Pew Research Center, 2014). More than half of online American adults (52%) use two or more social media sites (Duggan, Ellison, Lampe, Lenhart, & Madden, 2015). Social media sites are varied, thus providing options for just about everyone to participate in online social media activities from professional networking and mass communication sites to real-time location specific communications (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011). The increasing use of mobile and social media technologies means more people are connected to each other and organizations at all times, which has significant implications on how organizations create and distribute online content (Vaynerchuk, 2013).

One particular form of social media is blogging, which allows people to connect with a community, as does all social media, but blogs have the opportunity to share a wider, more in-depth, variety of information than other forms of social media (Kelleher & Miller, 2006; Kent, 2008). Pulizzi

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(2014) described blogs as the "centers of social media solar systems" that allow businesses to engage in dialog with customers (p. 159). When compared to other social media platforms, blogs often are viewed as the most credible (Fieseler, Fleck, & Mekel, 2010) and their use within organizations is increasing in popularity (Waters, Ghosh, Griggs, & Searson, 2014).

Blogs are Web pages frequently modified with dated entries or posts listed in reverse chronological order. Posts are typically written in first person and encourage interaction through comments and social media sharing (Rettberg, 2013). Blogs allow members of virtual communities to post, comment, and share whatever information they want, which has "heralded a seismic shift in the way business is done" (Holtz & Havens, 2009, p. 19). Organizations use blogs to engage in dialogue and feedback with stakeholders (Yang & Lim, 2009), which improves perceptions of transparency and accountability (Holtz & Havens, 2009). Organizational blogging has been able to create an online community among various publics (Jackson, Yates, & Orlikowski, 2007). As a blogging community's strength grows, the ability of members of a community to seek more useful answers and more in-depth information gathering increases. Members of the audience who participate in the blog expand their level of knowledge sharing among the other members of the organization's blog (Jackson et al., 2007). Corporate blogging also can help achieve public relations and marketing related goals (Wyld, 2008).

The tone organizations use when blogging can impact the effectiveness of the information shared through the blogs (Kelleher & Miller, 2006; Levine, Locke, Searls, & Weinberger, 2001). Kelleher and Miller (2006) found organizational blogs that used a conversational tone throughout the postings appeared to be more effective in communicating than an organization's traditional newsletter-type material that was available online. Levine et al. (2001) found traditional corporate or organizational communication does not contain a human-like voice or tone. However, blogs allow for organizations to communicate with characteristics such as humor, admitting mistakes, treating others as humans, and providing links to competitors (Weinberger, 2002). Seltzer and Mitrook (2007) concluded blogs would be more beneficial in creating online relationships with publics as compared to traditional websites, but they indicated continual effort needs to be made to create and establish these relationships through this form of online communications.

Public relations practitioners have described blogs as a tool that can influence individuals and publics (Kent, 2008). Porter, Sweetser Trammell, Chung, and Kim (2007) found practitioners who used blogs felt they had more power in the sense of expertise and prestige than those who were not blogging. Kent (2008) said the single greatest strength of blogs and the most important trait to public relations practitioners is the ability for publics to participate in the framing of online news and other information. The ability of blog authors to influence publics through social media and blogs is greater than other mediums because publics read blogs with developed opinions and prior knowledge (Kent, 2008).

Pawlick (2001) said agriculture and science information impacts people around the world, but traditional media outlets do not usually report on these developments. Those in charge of communicating scientific and applied research information through various media outlets have realized the need for agriculture to stay current and active with the latest advancements in communications technologies (Roth, Vogt, & Weinheimer, 2002; West, 2006). In fact, the continual improvements in the U.S. and international agricultural industries can be related to the ability to communicate those advancements effectively (Rhoades & Hall, 2007). As new technologies evolve, those within agriculture are dedicated to helping others utilize these technologies while sharing their discoveries to advance the industry as a whole. Improvements in communication practices could strengthen

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relationships with various publics by bringing people together to become better educated on various aspects of the agricultural industry (Roth et al., 2002).

People involved in the agricultural industry want more options to share, discuss, and interact with each other ("Successful farming re-engineers," 2010). Those involved with agriculture are some of the most advanced users of communication technology (Williamson, 2012). Currently, agriculturalists use social media tools, such as blogs, to share stories of production agriculture to educate and disprove misconceptions that public and policy makers may have about production agriculture (Livestock Marketing Association, 2010; Williamson, 2012). Agricultural producers are continually being encouraged to use social media because the opportunities to interact with consumers and clients are endless (May, 2011; Williamson, 2012). Others use this technology to sell products, find or establish resources for solutions, promote their businesses, build a news network, and take the opportunity to interact with experts in the field (Agriculture.com, 2010). Some producers and industry experts have developed blogs and other forms of social media to combat misinformation (Anderson-Wilk, 2009; Truitt, 2010).

Within agriculture, industry organizations are using blogs to interact with consumers by sharing recipes, marketing campaigns, educational information, industry resources (My Checkoff News, 2009), and producer stories (California Agricultural Communications Coalition, 2010). Some organizations have created blogging sites that allow for a personalized feel to an online forum (National Corn Growers Association, 2007). Industry groups also have launched blogs to have a place where producers can discuss industry trends in U.S. agriculture (United States Grain Council, 2009). Other organizations and individuals want to create a united front for agriculture, so they are working to create a community of "agvocates" through social media, which has been a focus of Syngenta's "Growing Digital" blog (Syngenta, 2011).

Despite the increase in blog popularity and use in agriculture, limited research has been conducted on blogs or blogging trends and practices in agricultural organizations or among individuals in the industry. Fannin and Chenault (2005) examined how blogs could be utilized in agriculture to attract and disseminate information to journalists and non-media consumers. Rhoades and Hall (2007) conducted the first agriculture-focused blog content analysis, which analyzed the characteristics of blogs in agriculture and what information the blogs contained pertaining to the industry. The content analysis found agricultural blogs at the time were very young, ranged in subject matter, and were not updated as often as other studies had found about blogs focused on other subjects. Another study related to blogs and agriculture focused on agricultural editors' and broadcasters' use of Web 2.0 and social media technologies (Rhoades & Aue, 2010). The researchers found those involved with agricultural communications understood the need to constantly adopt new technology but had a hard time maintaining a blog.

Theoretical Framework

The theoretical framework used in this study connected the theory of relationship management, interactivity theory, and contingency theory of accommodation. Other studies in public relations have used these theories in conjunction to research blogs, how people blog, and how stakeholders use websites (Grunig, 2009; Kelleher, 2008; Kelleher & Miller, 2006; Kent, 2008; Rhoades & Hall, 2007; Sweetser & Metzgar, 2007). The theory of relationship management is used in many fields — public relations, interpersonal relations, family relations, organizational studies, group dynamics, and more — as a central concept of managing the relationships between organizations and key publics (Ledingham, 2000). The theory is built around Grunig and Hunt's (1984) definition of public rela-

tion and posits that effective public relations must nurture and maintain relationships with key publics rather than manipulating publics (Ledingham, 2000). The theory of interactivity states dialogue and interaction can develop between an organization and its publics (Scuncio, 2010). This theory has changed with the advent and growth of the Internet, as interaction with the other individuals or organizations through social media, websites, or blogs has become a common practice (Smuts, 2009). Establishing how interactivity actually happens is important for organizations or public relations professionals to understand when disseminating information via blogs (Kent, 2008; Smuts, 2009).

Contingency theory of accommodation focuses on the continuum from pure accommodation to pure advocacy (Cancel, Mitrook, & Cameron, 1999). The theory provides an explanation for the decisions public relations practitioners make in establishing and maintaining relationships between organizations and their publics (Cancel et al., 1999; Kelleher, 2008). In public relations, practitioners choose to represent an organization to its publics from a variety of positions, which can range from pure accommodation to pure advocacy (Cancel et al., 1999). Kelleher (2008) said this theory can be applied when practitioners are willing to enter into a dialogue with a public, rather than simply advocating. In studies that researched organizational use of blogging, this theory has been used to determine the voice and willingness of practitioners to participate in a dialogue with their publics (Kelleher, 2008).

Purpose/Research Objectives

The purpose of this study was to explore why and how U.S. agricultural commodity organizations are using blogs as a communication tool to connect with target audiences. The following objectives were formed to achieve the research purpose:

1. Describe why U.S. agricultural commodity organizations established blogs.
2. Identify how U.S. agricultural commodity organizations manage their blog content.
3. Understand how U.S. agricultural commodity organizations use blogs as part of a strategic communication plan.

Methodology

This study used a qualitative research approach consisting of in-depth interviews with blog authors of selected U.S. agricultural commodity groups. Qualitative research uses in-depth information from a small sample to understand how and why people think, behave, feel, develop meaning, and experience a situation (Thomas & Magilvy, 2011). For this study, the researcher used a phenomenological approach to better understand how U.S. agricultural commodity organizations were using, experiencing, and engaging with blogs. Phenomenology methods are used to describe what or how people are experiencing something in "lived world, or the lived experience" (Morse & Richards, 2002, p. 45).

The researchers purposively selected U.S. agricultural commodity groups from two agricultural associations — the National Association of Farm Broadcasters (NAFB) and the American Agricultural Editors' Associations (AAEA). These associations both have members who represent a variety of agricultural industries, commodities, and audiences. The AAEA membership list contained three U.S. agricultural commodity organizations; the NAFB membership list had 15 U.S. agricultural commodity groups. Once the industry groups were identified, the organizations' websites were reviewed to identify the presence of an official organizational blog. All of the commodity organizations had blogs hosted on the website or hosted through an external website. The lead researcher then contacted each blog's administrator to seek participation in the study; nine agreed. These individuals

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were purposively selected because they were employees of the commodity organization and were the primary individuals who handle the blog content and management.

A questioning guide was used to collect data to address the research objectives. The questions addressed the organization's motivation to start a blog; how the organization is utilizing the blog; the organization's opinions, attitudes, and beliefs of the use of the blog; and how the organization measured success of the blog. The researcher collected the qualitative data using in-depth telephone interviews between December 9, 2011, and January 5, 2012, with nine participants from across the United States. The respondents represented five crop, two food, and two livestock organizations. The telephone interviews were recorded with a digital recording device, and the lead researcher took additional notes to record additional thoughts and concepts. Each interview was conducted using the same questioning guide and lasted approximately 45 minutes. The recorded interviews were then transcribed into separate Microsoft Word files.

Participants were assigned pseudonyms prior to analyzing the data. After the lead researcher transcribed each interview, the results were analyzed using the constant comparative method (Glaser & Strauss, 1967). Using this method, the researcher looked for common themes, similarities, and differences. The data were analyzed in multiple steps. First, the lead researcher individually read the nine interviews. Then, using NVivo 8.0 to help store, manage, and code the data, the interview transcripts were coded into themes based on the researcher's interpretation and classification of the data. As themes emerged, they were compared to other data and categories to determine common relationships around the information collected. To establish trustworthiness, researchers employed Lincoln and Guba's (1985) concepts of credibility, transferability, dependability, and confirmability. The lead researcher also bracketed her own biases prior to data collection and analysis through the use of a subjectivity statement.

Findings

All participants were employees of an U.S. agricultural commodity organization. The commodity organizations represented in this study include both state and national commodity organizations. Table 1 provides the respondents' pseudonyms, a brief job description, the location of the organization's headquarters, the year the blog started, and the classification for the blog. Most of the participants had continuously worked on their organization's blog since the launch. All were the main editors of the blog or worked closely with another employee to edit the blog.

Table 1

Characteristics of Selected U.S. Agricultural Commodity Organization Representatives and Corresponding Blogs (N = 9)

Pseudonym	Job Description	Geographic Location	Blog Launch Year	Commodity Classification
Hannah	Communications coordinator	Southwest	2010	Crop
Katie	Member of marketing team	Midwest	2011	Food
Lindsay	Communication specialist	Midwest	2010	Food
Matt	Director of communications	Midwest	2012	Crop
Michelle	Communications manager	Midwest	2011	Crop
Shelia	Director of communications	Midwest	2010	Crop
Stacy	Online content manager	Midwest	2009	Livestock
Trent	Director of communications	Northeast	2010	Livestock
Tyler	Director of communications	Midwest	2006	Crop

Table 2 provides the emergent themes identified within each research objective.

Table 2

Summary of Emergent Themes Identified for Each Research Objective

Research Objective	Emergent Themes
1. Describe why U.S. agricultural commodity organizations established blogs.	1) to utilize the newest communication tool 2) to reach traditional and new audience segments.
2. Identify how U.S. agricultural commodity organizations manage their blog content.	1) hosting services for blogs 2) blog topics and posting frequency 3) encouraging participation from blog followers.
3. Understand how U.S. agricultural commodity organizations use blogs as part of a strategic communication plan.	1) measuring blog success 2) determining target publics and strategic planning.

RO 1: Describe why U.S. agricultural commodity organizations established blogs.

Data analysis identified two themes for this objective: 1) to utilize the newest communication tool and 2) to reach traditional and new audience segments.

To utilize the newest communication tool.

One of the primary responsibilities of U.S. agricultural commodity organizations is to communicate with their members and supporting publics. Participants said the decision to establish and use an organization blog was primarily because blogs were the newest form of communication. When his

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organization's blog was started, Tyler said blogging was the up-and-coming communication trend. His organization wanted to find out what people were talking about.

> TYLER: We were looking for new ways to communicate with our members and the public other than just news stories and press releases. We wanted to find a way to put a more interesting spin on things that we are involved in and so we first began to experiment with blogging.

Participants said the blogs fit the commodity organizations' need for a communication tool that allowed them to post in-depth information and provided a way to save information for future use. Shelia said her organization's blog "creates an archive of information on our website." Another reason for establishing the blog was the ease of publishing information during international travel. Michelle said a blog allowed her organization to "communicate with the media, board members' families, and other farmers that might be interested in our organization's travels." Additionally, participants said their organization's blog was established to provide a constant stream of content from the organization to its membership. Blog followers can be alerted to the latest developments with an organization faster and easier with the blogging technology's ability to send instant emails and give readers the ability to choose which information they will read. Trent said, "We have tons of news that goes to our members through email, and instead of getting lost, the blog allows people to choose where their information is coming from."

The participants all said they wanted to embrace a new online communication tool to disseminate messages to their audience members. These messages included information about consumer and producer education, outreach, marketing, public relations, and media relations. Several of the participants said they wanted to start a dialogue on the blog about topics the organization had previously put in a printed publication.

> HANNAH: One of our biggest things that we have done to get a conversation started is to repurpose an article, and use it on our blog from our organization's newsletter or magazine. We then broadcast that on Twitter or Facebook and followers will click on those links and go back to our blog. It is a way to increase traffic back to our blog and website.

The participants said blogs were a form of social media that could work to promote a message for a specific purpose or cause. Katie said her organization desired an outlet that would help provide information to benefit the organization's reputation. She said, "We have found that through research, anytime that you can get a message out there and start a dialogue, you can create trust and share our organization's mission." One participant mentioned the blog was used to address misinformation during the 2009 H1N1 crisis that affected the United States when the casual use of the term "swine flu" created consumer confusion regarding the safety of pork products. Stacy said the blog was an excellent tool during the H1N1 crisis to reassure people that pork was safe. She said, "The blog is another resource we use to promote our product and ensure consumer confidence."

To reach traditional and new audience segments.

U.S. agricultural commodity organizations started blogging to communicate with producers, consumers, and media. Participants also said their organizations saw blogs as a way to contact different target audiences. Trent said, "We wanted to reach a younger audience." Katie said her organization's

blog was "directly targeted toward early adopters, people who are seeking information about food, and agricultural industries." Hannah said her organization used the blog "to target those who are more likely to gather news information from social media or a blog versus a newsletter that we mailed out."

One key audience segment the participants said their blogs help reach are members of the media. Reaching the media allows the organizations to provide information about events, education, and legislation. The participants said media representatives enjoy being able to read about an event or issue within a specific industry and have a story idea pitched to them. Trent, Shelia, and Michelle all said these story pitches would not have been as easily available or successful without their commodity organization's blog. Michelle said, "One of the purposes of our blog is to share information with various audiences, especially media. By giving the media information that they need, they can follow us and generate stories about our organization and our members." Shelia stated many major U.S. media outlets are keeping a watchful eye on her organization's blog and the added media attention has helped provide information about agriculture and her organization's work within the crop industry. Stacy said, "When major media is checking our blog for stories, I know they must be checking other organizational blogs, and this is helping American agriculture share its story."

RO2: Identify how U.S. agricultural commodity organizations manage their blog content.

Three themes emerged to address this research objective: 1) hosting services for blogs, 2) blog topics and posting frequency, and 3) encouraging participation from blog followers.

Hosting services for blogs.

The U.S. agricultural commodity organizations used either a pre-existing website or external blogging website to host the organizational blog. Externally, five commodity organizations used WordPress and two used Blogger. Participants said the external blogging websites offered the commodity organizations the opportunity to easily construct a blog that fit their initial and evolving needs as a communication tool.

> TRENT: I didn't see any reason to reinvent the wheel; there are free services that are easy to use. These major blogging sites have most of the quirks worked out of them. Instead of developing something internally where we would have to work out bugs, we decided that to take the easy path.

Two commodity organizations chose to host their blog through their organization's preexisting website because it was less of a hassle and worry than to have to direct potential readers to another website. They also said they enjoyed being able to link all of their organization's supplemental websites and blogs together under one umbrella website. Katie added her organization chose to keep the blog on their website so "people have a central location to search for information pertaining to the organization."

Blog topics and posting frequency.

Participants said blog topics were focused around the organization's commodity, but they also included supporting topics. To determine the subject matter for the blog posts, three organizations used a yearly calendar and based blog posts on national nutrition month, national dairy month, and major U.S. holidays, such as Easter and Thanksgiving. Katie said, "We follow the calendar year. At

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Thanksgiving people talk about turkeys and ham, at Easter people talk about eggs, so we use those type of things as well to bring more consumer type things into the blog." While some organizations had a plan for the subject matter of the blog posts, other participants said the posts could vary if they supported the organization's commodity.

Participants said the blog's subject matter is a way for their organizations to draw media attention to a certain subject that is affecting the organization's membership and operations. For particular events or industry-related issues, blogs were used to gain attention from major media outlets. Many of the organizations' blogs also provided legislative and political information about industry issues that affect producers.

All the participants said their organizations enlisted the assistance of more than one person to write blog posts. One participant said her organization pays outside bloggers to produce content, while two organizations had volunteer bloggers. In both cases, the bloggers were allowed to determine their own blog posting content as long as is it related to the mission of the commodity organization and the target audience. Some of the organizations have goals of posting to their blogs three to five times a week, but participants said they are more concerned with producing quality content than meeting editorial calendar deadlines. Shelia said, "Blogging takes time. It is not a shortage of topics; it's just the time it takes to do it."

Encouraging participation from blog followers.

Participants said their commodity organizations have struggled to encourage comments and conversations from readers. Multiple organizations have tried to pose questions to start a conversation between blog followers and the blog author. Stacy said, "We do a couple of promotions that they have to sign up in the comments. It takes them one step further than just visiting or reading."

Some organizations used comments as a measurement of a successful post. Tyler said, "I wish readers would comment more. You can measure the success of a blog in some ways by number of comments that are posted." Hannah said the level of comments they receive on their national crop blog is related to a post's level of controversy. She explained: "Sometimes I am leery of the comments from the general public. We have not had any situations yet [in] dealing with individuals who may be offended or unhappy about a blog post."

Tyler said his organization has not figured out the perfect way to initiate a conversation with blog followers. Lindsay, Trent, and Katie all said they would like the blog followers to create a conversation among themselves without assistance from the organization's blog authors. Others said their organizations did not care if they received comments on the blog posts because they knew people were reading them.

Each organization had a different process for moderating comments on blog posts. Some organizations allowed every comment to be posted, while others thoroughly read the comments before they were allowed to be posted. Others removed comments if they contained profanity. Stacy said her organization had a strict set of organizational blogging policies and each comment was held to those policies. She said the comments her organization were most concerned about monitoring were from people who were concerned or frustrated and she said they aimed to help those people. Trent said his organization's policy to handle comments was not to remove comments from the blog unless they contained references to violent actions or profanities.

RO 3: Understand how U.S. agricultural commodity organizations use blogs as part of a strategic communication plan.

Two major themes were identified to address this objective: 1) measuring blog success and 2) determining target publics and strategic planning.

Measuring blog success.

Each organization considered success differently, but no organization had directly conducted research to determine the blog's success. The commodity groups used the built-in blogging analytics as the main way they monitored success of the blog, although some did use Google Analytics. Trent mentioned it was difficult to directly measure the success of his organization's blog, but "Google Analytics tells us a lot of information and from there, we can measure the amount of time a visitor stayed, how many times a blog is mentioned on Twitter or Facebook." Many commodity organizations also tracked how many times a blog post was retweeted on Twitter or shared on Facebook to help measure success.

Six of the participants considered a blog post successful if it received comments from readers because it indicated a higher level of interaction that could lead to a dialogue. Additionally, the participants said the media was an audience they wanted to reach with their blogs, and the mass media's level of attention to their blogs was used as a measurement of success. Trent mentioned that receiving phone calls from the media about a blog topic or post was a rewarding feeling: "Based upon the phone calls that we get for testimony and questions about issues that affect policy makers, we feel our blog is successful."

Determining target publics and strategic planning.

The participants shared varying opinions regarding if they had established a blog with specific publics in mind. Several of the organizations had not included social media communications in the organizational strategic communication plan; therefore, they had not been able to compare who they wanted to read their blog to who actually was. Lindsay said she was aware of how her organization was using social media to interact with Internet users, but she was unsure of who was really using their social media resources.

> LINDSAY: We are also using social media to engage with people about dairy; it's kind of a wide audience. Obviously, the dairy farmers use social media, but it's also the general consumer who eats dairy, health professionals; it's a wide range of people, but we haven't got down to specific audiences.

None of the organizations had directly conducted research to determine which publics or audiences were representative of blog followers other than through what information the blogging site provides for analytic support. Katie said, "It is the early adopters, just from our comments and things like that we can tell." Tyler said, "Our organization is not trying to target anyone in particular with this blog, it just gives people a look at what we are doing and what we are thinking."

Other organizations have a defined communications strategy and modes of communication with their target audiences, but they will use both traditional and online media to promote their blog content. Organizations that still focus on print media efforts to reach a predetermined audience will include blog information, or links for more information in print publications, with the hopes of directing print media readers to the blog to read other information. Hannah said her organization announces the blog in the weekly newsletter: "It's where we generate the majority of hits because the majority of members see an interesting title and they want to see what else the blog has to say

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about it." Tyler said his organization promotes their blog through organizational presentations: "Any chance that we can get in front of a farm audience presentation; our blog is one thing that is listed as an address on the last PowerPoint slide. We talk about it a lot." Trent's organization uses instant email-blasts to the members to provide blog post updates. Others said they comment on specific blogs and are hyperlinked to other state, regional, or national blogs or websites that support the commodity.

Conclusions/Implications/Recommendations

All the organizations represented in the study had established their blogs between 2006 and 2012. The participants in this study were very familiar with the blogging procedures for their organization, and most had been with the organization when the blogs were launched. The participants said their organizations started blogs to utilize the latest online communication tool and to reach traditional and new audience segments. The blogs allowed the organizations to share information about activities, travel, events, and news specific to their organization's purpose. In addition, the blogs allowed the organizations to interact with more audience members using this online format. Blogs offer a unique communications outlet to allow organizations and publics to interact, and relationships formed through blogs between the organization and publics can benefit both parties based on the information shared (Seltzer & Mitrook, 2007). This ability to establish and maintain relationships is paramount to the theory of relationship management (Ledingham, 2000). Eight organizations mentioned the ability to draw media attention from blog posts, which met the organizations' goal of creating awareness and promoting the organization. The participants said they felt a sense of accomplishment when the media used information provided in their organization's blog.

The organizations varied on how they designed and posted content to their blogs, with most using an external blog service such as WordPress and Blogger. The participants said they enjoyed receiving comments and participation from their readers, but they struggled to encourage reader feedback. Although most of the organizations did not follow a set schedule for blog post topics, they all emphasized the need to keep the information current and frequent. Using a set schedule for blog posting represents the organization's attempt to create relationships and maintain existing relationships based on consistency and accountability (Kelleher, 2008; Porter et al., 2007). The participants said their organizations focused their blog posts and other content matter to the subject of the commodity or other information that impacts the organization. According to the contingency theory of accommodation (Cancel et al., 1999), it appears the participants recognized the need to provide content that advocated their organization while also responding to readers' comments.

Yang and Lim (2009) found when blog content is written with a higher level of staged interactivity, the public judged the particular website to be more transparent and credible. It was rewarding to the blog authors when readers commented on blog posts or shared the link to the blog through email and social media. According to the theory of interactivity (Scuncio, 2010), understanding when and how this dialogue occurs between an organization and its publics can help public relations practitioners better share information through blogs (Kent, 2008; Smuts, 2009).

Only two of the nine organizations had written the blog into their organization's strategic communications plan. One aspect of strategic planning is to establish goals to measure success, which the organizations in the current study had not set prior to launching their blogs. Participants said their organizations do use the analytics from the blogging host websites or Google Analytics to track how many people are visiting their blogs. However, these analytics do not provide information about why certain people are visiting the blog or how it could be improved to better meet audience members'

needs. One measurement of blog success the commodity organizations used was the number of media mentions that resulted from blog content. Blogging can draw attention from mass media outlets, which allows the organizations to disseminate information about their organization, commodity, and production agriculture to an even broader audience.

Recommendations for practitioners are to examine the potential of a blog for their own organization or business. If a blog is established, the information shared should be relevant, current, frequent, and have a conversational tone that encourages interaction. Finally, organizations should establish goals to measure success or identify areas of improvement and include blogging in strategic communication plans.

This research provides a better understanding of how U.S. agricultural commodity organizations are utilizing blogs, but more research is needed to further explore and examine how this industry adopts and integrates social media into existing communication efforts. Content analysis of blog content would help identify how practitioners are connecting with their audiences and determine where the content falls on the continuum from advocacy to accommodation, as addressed in the contingency theory of accommodation (Cancel et al., 1999). Future research should focus on the audience members for these blogs to determine who is reading them and what they gain from that interaction. It also would be interesting to explore the analytics of blogs in terms of number of visits, comments, and social media mentions. This was not explored in the current study but would provide quantitative evidence of the activity generated through a blog.

One limitation of this study is that the data were collected in 2012. With the fast pace of online technology, this can seem dated within months. However, the study's findings provide a snapshot at one point in time of how these agricultural organizations were using blogs. Additional research is necessary to provide further descriptions of how this online technology is being integrated into an organization's communication mix. This study will provide a point of comparison to see how technology use changes in the future.

This study found blogs offer an effective and inexpensive communication outlet for organizations to reach individuals both in production agriculture and those who are not, such as consumers. Blogging does take time, energy, and effort; however, according to this research, the time spent developing relationships was a successful way to extend the reach of an agricultural organization's communication about agricultural events, news, issues, and crisis situations.

References

Anderson-Wilk, M. (2009). Changing the engines of change: Natural resource conservation in the era of social media. *Journal of Soil and Water Conservation*, *64*(4), 129A-131A.

Agriculture.com. (2010, February, 2). 5 Ways to network. General format. Retrieved from http://www.agriculture.com/successful-farming/business/5-ways-to-network_121-ar6140Anderson-Wilk, M. (2009). Changing the engines of change: Natural resource conservation in the era of social media. *Journal of Soil and Water Conservation*, *64*(4), 129A-131A

California Agricultural Communications Coalition. (2010, September 1). CA Ag coalition says" Like Farmville? Maybe it's time to know a real California farmer. General format. Retrieved from http://www.agprofessional.com/news/ca_ag_coalition_says_like_farmville_maybe_its_time_to_know_a_real_california_farmer_120028104.html

Cancel, A., Mitrook, M., & Cameron, G. (1999). Testing the contingency theory of accommodation in public relations. *Public Relations Review*, *25*, 171–197.

Duggan, M., Ellison, N. B., Lampe, C., Lenhart, A., & Madden, M. (2015, January). *Social media update 2014.* Retrieved from http://www.pewinternet.org/2015/01/09/social-media-update-2014/

Fannin, B., & Chenault, E. (2005). Blogging agricultural news: A new technology to distribute news real-time. *Journal of Applied Communications*, *89*(2), 51-57.

Fieseler, C., Fleck, M., & Meckel, M. (2010). Corporate social responsibility in the blogosphere. *Journal of Business Ethics, 91*(4), 599-614.

Glaser, B. & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine.

Grunig, J. (2009). Paradigms of global public relations in an age of digitalization. *PRism*, *6*(2), 1-19.

Grunig, J., & Hunt, T. (1984). *Managing public relations.* New York: Holt, Rinehart, & Winston.

Holtz, S., & Havens, J. C. (2009). *Tactical transparency: How leaders can leverage social media to maximize value and build their brand.* Hoboken, NJ: Wiley.

Jackson, A., Yates, J., & Orlikowski, W. (2007, January). Corporate blogging: Building community through persistent digital talk. In *Proceedings of 40th Hawaii International Conference on System Sciences*, Big Island, HI. doi:10.1109?HICSS.2007.155

Kelleher, T. (2008). Organizational contingencies, organizational blogs and public relations practitioner stance toward publics. *Public Relations Review, 34*(3), 300-302.

Kelleher, T., & Miller, B. (2006). Organizational blogs and the human voice: Relational strategies and relational outcomes. *Journal of Computer-Mediated Communication*, *11*(2), 395-414. doi:10.1111/j.1083-6101.2006.00019.x

Kent, M. (2008). Critical analysis of blogging in public relations. *Public Relations Review*, *34*(1), 32-40. doi:10.1016/j.pubrev.2007.12.001

Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons, 54*, 241-251. doi:10.1016/j.bushor.2011.01.005

Ledingham, J. (2000). *Public relations as relationship management: A relational approach to the study and practice of public relations*. Mahwah, New Jersey: Lawrence Erlbraum Associates.

Levine, R., Locke, C., Searls, D., & Weinberger, D. (2001). *The cluetrain manifesto: The end of business as usual.* New York: Perseus Publishing.

Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

Livestock Marketing Association. (2010, May 4). Rural Wyoming citizens, agriculturalists tell their stories. Retrieved from http://beefmagazine.com/people/0504-wyoming-shares-ag-stories/index.html

May, J. (2011, March 3). Social media can be for you, too. Retrieved from http://beefmagazine.com/cowcalfweekly/0304-social-media-for-you/index.html

Morse, J. M., & Richards, L. (2002). *ReadMe first for a user's guide to qualitative methods.* London: Sage Publications.

My Checkoff News. (2009, April 22). Checkoff helps drive consumer interest in beef middle meats. Retrieved from http://beefmagazine.com/sectors/retail/0423-beef-middle-meats/index.html

National Corn Growers Association. (2007, August 6). NCGA launches new 'Corn Commentary' blog. Retrieved from http://www.agprofessional.com/news/ncga_launches_new_corn_commentary_blog_120125299.html

Pawlick, T.F. (2001). *The invisible farm.* Chicago, Ill.: Burnham.

Pew Research Center. (2014). *Mobile technology fact sheet.* Retrieved from http://www.pewinternet.org/fact-sheets/mobile-technology-fact-sheet/

Porter, L. V., Sweetser Trammell, K., Chung, D., & Kim, E. (2007). Blog power: Examining the effects of practitioner blog use on power in public relations. *Public Relations Review*, *33*(1), 92-95. doi:10.1016/j.pubrev.2006.11.018

Pulizzi, J. (2014). *Epic content marketing.* New York: McGraw-Hill Education.

Rettberg, J. W. (2013). *Blogging* (2nd ed.). Malden, MA: Polity Press.

Rhoades, E., & Aue, K. (2010, February). *Social agriculture: Adoption of social media by agricultural editors and broadcasters.* Paper presented at the Southern Association of Agricultural Scientists, Orlando, Florida

Rhoades, E. & Hall, K. (2007). The agricultural blogosphere: A snapshot of new agricultural communicators online. *Journal of Applied Communications*, *91*(3&4), 37-55.

Roth, C., Vogt, W., & Weinheimer, L. (2002). Joint effort boosts APS' benefits. *AgriMarketing, 40*(7), 4-5.

Scuncio, J. (2010). *A content analysis of consumer technology corporate blogs as interactive public relations tools*. (Senior project). California Polytechnic State University, San Luis Obispo.

Seltzer, T., & Mitrook, M. A. (2007). Public relations the dialogic potential of weblogs in relationship building. *Public Relations Review*, *33*(1), 227-229.

Smuts, A. (2009). What is interactivity? *Journal of Aesthetic Education*, *43*(4), 53-73. Retrieved from http://onlinelibrary.wiley.com/doi/10.1111/j.1948-7169.1997.tb00169.x/abstract

Successful farming re-engineers, re-launches Agriculture.com. (2010, August 6). Retrieved from http://www.agrimarketing.com/s/61937

Sweetser, K., & Metzgar, E. (2007). Communicating during crisis: Use of blogs as a relationship management tool. *Public Relations Review*, *33*(1), 340-342. doi:10.1016/j.pubrev.2007.05.016

Syngenta. (2011, August 18). Syngenta releases new blog to assist "agvocates" use social media. Retrieved from http://www.agprofessional.com/news/Syngenta-relesaes-new-blog-to-assist-agvocates-use-social-media-127998973.html

Thomas, E., & Magilvy, J. (2011). Qualitative rigor or research validity in qualitative research. *Journal for Specialists in Pediatric Nursing*, *16*(2), 151-155. doi:10.1111/j.1744-6155.2011.00283.x

Truitt, G. (2010, February 5). Social media: The new battleground for American agriculture. General format. Retrieved from http://beefmagazine.com/products/0215-social-media-agriculture-battleground/

United States Grain Council. (2009, May 6). Grain Group launches blog. General format. Retrieved from http://www.agprofessional.com/news/agpro-weekly/grain_group_launches_blog_121208333.html

Vaynerchuk, G. (2013). *Jab, jab, jab, right hook: How to tell your story in a noisy social world.* New York: Harper Collins.

Waters, R. D., Ghosh, P., Griggs, T. D., & Searson, E. M. (2014). The corporate side of the blogosphere: Examining the variations of design and engagement among *Fortune 500* blogs. *Journal of Promotion Management, 20*, 537-552.

Weinberger, D. (2002). *Small pieces loosely joined: A unified theory of the web*. Cambridge, Mass.: Perseus Books.

West, L. (2006). *Evaluation of the professional development status of agricultural media summit-sponsoring organizations' active members.* (Master's thesis, Texas Tech University). Retrieved

from http://thinktech.lib.ttu.edu/ttu-ir/bitstream/handle/2346/18867/West_Lindsay_Thesis.pdf?sequence=1

Williamson, A. (2012, January 21) Rancher blogs of home on the range. *The Topeka Captial-Journal-Online.* Retrieved from http://cjonline.com/news/2012-01-21/rancher-blogs-home-range

Wyld, D. (2008). Management 2.0: A primer on blogging for executives. *Management Research News, 31*(6), 448-483.

Yang, S., & Lim, J. (2009). The effects of blog-mediated public relations (BMPR) on relational trust. *Journal of Public Relations Research*, *21*(3), 341-359. doi:10.1080/10627260802640773