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Perceptions of Social Media Use Among U.S. Women Farmers

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Perceptions of Social Media Use Among U.S. Women Farmers

Abstract

Communication networks and knowledge sharing are important for the persistence of small farms that operate outside of industrial agriculture. In past years, internet platforms have been promoted as a tool for farm businesses to connect with customers and other farmers. Social media in particular has gained attention as a user friendly and accessible tool for small business viability. Drawing on Uses and Gratifications Theory, this study uses examines interviews with women farmers' in the United States to explore how they view the role of social media for their agricultural practice. Results demonstrate that women farmers report using social media to reach consumers, seek agricultural information, and maintain emotional connections with other farmers. Though important, women farmers are often overlooked in agricultural research and training programs. Theoretical and practical implications highlight how social media and agricultural trainings can promote media literacy and promote women farmers' success in agriculture.

Keywords

women farmers; social media; farm businesses; uses and gratifications theory

Cover Page Footnote/Acknowledgements

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Introduction

Despite persistent barriers to land, capital, and knowledge in agricultural contexts (Leckie, 1996; Keller, 2014), the number of women farmers continues to rise in the United States. In the 2017 agricultural census, women farmers constituted 36% of total farmers, up 6% from just 5 years before (U. S. Department of Agriculture, 2019). This increase is partly due to more precise counting of women farmers; however, research shows that women farmers have developed effective strategies for remaining resilient in agricultural contexts (Sachs et al., 2016; Hassenein, 1996).

Women typically own smaller farms, for less income, and are more likely to participate in farm models outside of conventional methods (Allen & Sachs, 2011; Sachs, 2016). These operations make important contributions to the strength of local food systems in rural communities. In fact, studies suggest that organized local food and agricultural systems adopting sustainable practices can bring an array of benefits to the environment, community wellbeing, and human health (Carlisle et al., 2019; Horrigan et al., 2002; Steele, 1997).

Women farmers are vital to thriving local food systems and rural communities, yet, as an underserved population, they have less access to education, resources, and professional networks (Leckie, 1996; Keller, 2014). These resources are critical for women to feel empowered in agricultural spaces, curb feelings of isolation and build shared trust with others in the field (Barbercheck et al., 2009; Hassenein, 1997), Women farmers have been found to use social media – perhaps, to bridge that gap (Melendez et al., 2015; Polanin et al., 2017). Drawing on a uses and gratifications theory framework (Katz et al., 1973), this study examines how women farmers build and maintain their farming networks and their businesses using social media. Specifically, it asks (1) How do women farmers use media to stay connected; and (2) How do women farmers feel these platforms contribute to or hinder their persistence in their farm businesses? By examining women farmers' unique uses and practices on social media, this study aims to help women farmers thrive as business owners. The findings intend to help organizations more effectively disseminate valuable information to this audience, as well as develop social media trainings focused on the unique needs, skills, or interests of this group. By providing information that will support individual women farmers and their businesses, this study's results also serve to have an overall positive impact on the small local food systems and rural communities of which women farmers contribute to greatly.

Literature Review

Women in Agriculture

When compared to men, women farmers today own smaller farms that have lower farm sales and farm incomes (Allen & Sachs, 2011). They are also more likely operate outside of conventional farming methods (Trauger, 2008; Trauger et al., 2010). This reality is not due to inherent gender difference in farmer preferences or capability but can be understood as the product of a long history of gender discrimination in farming.

In the United States, women farmers have long faced barriers to accessing agricultural land, credit, information, and property fitting machinery (Allen & Sachs, 2011; Keller, 2014; Leckie, 1996). Women farmers also carry a disproportionate share of household and childcare responsibilities that limit their time to learn all types of agricultural tasks and attend educational

and training sessions (Allen & Sachs, 2011; Brasier et al., 2011). These factors have long shaped the representation of women as "farm wives" or "bookkeepers" on the farm, instead of adequate sources of agricultural knowledge (Shorthall, 1996; Trauger et al., 2008).

The misconceptions of women farmers' contributions further excluded their needs during the development of state and federal services meant to assist farmers. Ball (2014) argues that "economists researching women's issues were not interested in agriculture because so few women were farmers and women were not of particular concern to rural development policymakers because so few farmers were women" (p. 593). One prolific source of exclusion from support for women farmers is in agricultural extension provided by land-grant University and agencies such as the U. S. Department of Agriculture (Trauger et al., 2008). These sources maintained gender barriers by failing to acknowledge the unique perspectives and needs of women farmers (Liepins & Schick, 1998). Research suggests that women farmers have responded to this exclusion by developing their own unique ways of exchanging agricultural knowledge (Hassanein, 1997; Trauger et al., 2008).

In addition to challenges related to their gender, all farmers must manage and cope with a range of challenges related to production, safety, finances, land use and weather. Small farms, in particular, confront steep economic and social barriers to participating in agricultural sector in the United States. In the United States, where the dominant farming model is large-scale, commodity agriculture that promotes high production, uniformity and profit-maximization (Lyson & Guptill, 2004), small farms face pressure to consolidate into larger operations to increase profit potential or risk losing the viability of their businesses (MacDonald, 2018). Extreme weather and climate events further exacerbate these risks and present a host of unpredictable variables to farms everywhere.

Despite these gender, economic and environmental challenges, the prevalence of women recognized and identifying as farmers today continues to rise (Trauger 2008; U. S. Department of Agriculture, 2019).Women are more likely to operate on farms using sustainable agricultural methods than conventional methods, they produce a large share of high-value and value added products, and they frequently engage in business models that prioritize community engagement such as community supported agriculture (CSA) or agritourism operations (Ball, 2014; Jarosz, 2011; McGehee et al., 2007; Sachs et al., 2016; Trauger et al., 2008). These contributions are important to continue to grow as they provide benefits to the economic, environmental, and social well-being of communities.

Women Farmers' Social Networking

Women farmers have enacted unique strategies to remain resilient and make such pronounced contributions in agricultural contexts. Buzzanell (2010) suggests that resilience is a dynamic process that unfolds over time through the way people collectively make shared meaning of their experiences and paths forward. Theory and research alike suggest that the ability to maintain and use communication networks is a key process for the resilience of groups experiencing sudden or enduring hards hip. (Buzzanell, 2010). The existence of communication networks serves to increase one's capacity for social networking and build social capital, which has been found to improve persistence and resilience during times of stress (Kim et al., 2013).

Past research suggests that women farmers rely on communication networks and social relationships to circumvent barriers to material and informational resources in agriculture

(Hassenein, 1997; Trauger et al., 2008; Wypler, 2018). In response to their gendered experiences in farming, women have developed their own distinct ways of communicating support with other farmers that is different from male farmers (Hassenein, 1997). Hassenein (1997) argues that "different experiences in everyday life may create multiple and partial perspectives", and that "the knowledge women exchange emerges not only from their production activities, but from their experiences in a male-dominated industry" (p. 256). For example, in a study of women farmers in Pennsylvania, most preferred interactive learning, peer teaching, and opportunities to explore and hear from others based on lived experience (Barbercheck et al., 2009). Women farmers also reported that social networking served as a critical source of empowerment through which they curb isolation, build shared trust, and exchange information about farming and products (Trauger et al., 2008).

Social networking opportunities are valuable for women farmers' participation in agriculture in the United States, however, this group finds challenges in carving out time to attend in-person workshopping sessions, as well as finding spaces where they feel included and empowered within a male-dominated industry (Sachs et al., 2016). In order to support social networking practices, research must continue to explore emerging creative solutions for where and how women can access this type of support.

The Role of Social Media in Supporting Women Farmers

Social media may be one such tool that allows women farmers to network with others in order to support their enterprises as small business owners, as well as their own personal needs through the challenges of farming. Social media is particularly relevant to the demonstrated needs of women farmers because they are sites through which communication networks may emerge.

The networks that develop through social media may contribute to women's personal needs in farming. Recently, agricultural organizations have demonstrated interest in promoting online social networking to further their missions of supporting women farmers (Melendez et al., 2015; Polanin et al., 2017). One study in New Jersey assessed the impact of social media tools for networking after the conclusion of an online program offered through "Annie's Project", an organization that promotes education specifically for women. Polanin et al. (2017) found that, to varying degrees, participants continued to utilize social media for interaction with peers long after the session was over. More broadly within farming, a study of Illinois farmers found that those who used online marketing tools such as blogs and newsletters had a higher level of social capital. In addition, farm Facebook friends and 'likes' were highly correlated with revenue for farmers. (Abrams & Sackman, 2014). Lastly, an analysis of Twitter and Facebook communication among farmers in New Zealand found that farmers frequently used social media as a platform for knowledge exchange and information sharing (Ciric et al., 2018).

The promotion of social media for farm businesses follows demonstrated success of social media as a tool for small businesses in general. Social media is also an effective tool through which small businesses can develop and maintain social capital within their local communities, which has further been found to lead to success among small businesses (Phua et al., 2017). In addition, business owners have been found to use social media to provide aid and information particularly during times of disaster or hardship (Aldrich, 2010; Chamlee-Wright & Storr, 2011; Doerfel et al., 2013; Kim et al., 2013; Torres & Marshall, 2015). Lastly, social media allows small businesses to promote their products and services (Hassan et al., 2015; Jones et al., 2015; Schaupp & Belanger, 2014). Platforms such as Instagram, Facebook and Twitter have been

praised as an affordable way for businesses to develop relationships with customers, gain referrals, and increase profits (Jones et al., 2015; Schaupp & Belganger, 2014).

Despite the demonstrated potential of social media as a way for women farmers to further circumvent barriers to accessing social networking opportunities, usage is varied among different individuals (Polanin et al., 2007). More information is needed to understand about how women farmers perceive and may use these platforms.

Theoretical Framework

While social media has many desirable uses and outcomes for business owners, farmers, and business owners more generally, have varying uses and gratification with communication on the platforms (Ciric et al., 2018). Uses and gratification is a valuable framework through which women farmers' social media communication practices can be better understood. Uses and gratification theory "represents an attempt to explain something of the way in which individuals use communications, among other resources in their environment, to satisfy their needs" (Katz et al.,1973, p.510). A common psychological communication perspective, the theory assumes that assumes that different people can use the same mass medium for varying purposes (Severin and Tankard, 1997). Individuals make choices and use media based on their access and perceived benefits of the platform. Media use and gratification is cyclical in nature; individuals who use and have positive experiences with a platform are more likely than those who did not to perceive the platform as being beneficial and will therefore be more likely to continue media use (Whiting & Williams, 2013).

Stafford and colleagues (2004) identify three potential types of uses and gratifications of internet use: content gratification, process gratification, and social gratification. Users who experience content gratification are motivated by the pursuit of specific information, while process gratification users benefit from the enjoyment of using the sites. Finally, social gratification refers to the use of media for "interpersonal use and social networking" (Stafford et al., 2004, p. 268).

Gratifications may vary depending on the user's end goals of social media use and will likely influence the platform they seek out. For example, college students in one study use Facebook mainly as a means to get away from responsibilities, express concern and friendship toward others, while they used Instant Messaging for more intimate conversation and individualized knowledge seeking (Quan-Haase & Young, 2010). Another study of college students applied uses and gratification theory to understand the ways social networking sites such as Facebook, Twitter, Instagram and Snapchat lead to higher social capital by "fostering systems of norms and reciprocity" that ultimately leads to positive social outcomes (Phua et al., 2017, p.121).

Uses and gratifications theory now drives the majority of research to understand social media use inside and outside of agricultural contexts. In agricultural contexts, uses and gratification can be applied to understand how and why farmers may or may not utilize social media for support on their farms (Phillips et al., 2018; Shaw et al., 2015). In New Zealand, research suggests that farmers use social media as a space for like-minded individuals to have open conversation, share strategies, and acquire knowledge that may otherwise be unavailable in their immediate communities (Phillips et al., 2018). Further, a questionnaire of farmers in the

United States found that farmers may be more likely to use tools on social media for their business when they use similar tools in their personal lives as well (Shaw et al., 2015).

While researchers have identified different benefits and variances in usage, this study responds to a need for research that further understands the farmers' perceptions of the platforms, uses of the platforms, and perceived outcomes from communication on social media (Shaw et al., 2015). Furthermore, it would be valuable to learn more about how women farmers, an underserved population of farmers, use social media. This information can increase the usefulness of trainings on the use of social media for farm businesses as well as more effectively disseminate information to those who seek it. Better understanding the relationship between social media and the persistence of women farmers will help maintain the positive impact of small farms on local food systems and rural communities. In particular, this study explores the following research questions (RQ):

(1) How do women farmers use media to stay connected?

(2) How do women farmers feel these platforms contribute to or hinder their persistence in their farm businesses?

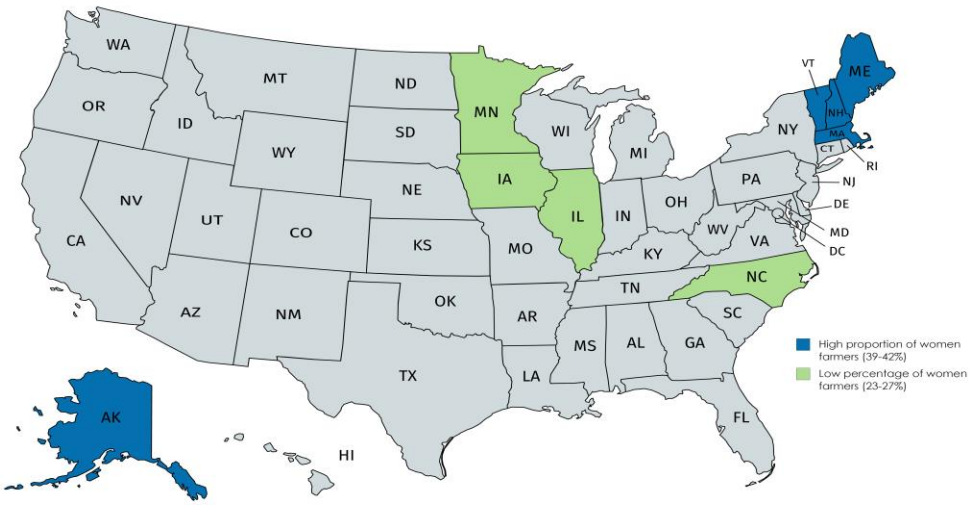
Methods

Recruitment of Participants

Interviewers sought to understand how women farmers from a variety of geographic regions and farming communities experience social networking on their farms. To achieve a variety of information-rich cases within these geographic areas (Patton, 2002), interviewers used criterion-based recruitment to purposefully sample for maximum variation (Etikan, 2016). Purposeful recruitment efforts focused on including women farmers who met the criterion of farming in the six states with proportionally the most women farmers and six with proportionally the least women farmers. As determined by preliminary analysis of the 2012 U. S. Census of Agriculture, these included multiple states in the Northeastern and Midwest regions of the United States, as well as one state in each the Northwestern and South Atlantic regions of the United States. Of the initially selected and recruited states, this paper includes analysis of interviews from five states with the highest proportion of women farmers and four with the lowest. Organized by region to ensure confidentiality of the participants, Table 1 includes details about each farmer and their farm.

Figure 1

Sample States of Study Locations.



In the Winter of 2019, farmers from selected states were identified and asked to participate in this study by key informants in each of their respective states. Using key informants involves "identifying, selecting, and questioning knowledgeable leaders and experts in order to construct estimates of target problems and populations" (Patton, 1990, p.125). Key informants were contacted and asked to assist with the study by the generosity of Mary Peabody, an extension professor with University of Vermont Extension who is also the founding Program Director for the Women's Ag Network (WAgN). The key informant list included individuals in agricultural support positions in their respective states. The first author made initial contact with the key informants. Each introduction was then followed up by a member of a research team at the University of Vermont (11 researchers total, including the first author).

Researchers asked informants for names of farmers who identify as women, are at least 18 years old, and are the principal farm operator or a farmer when up to three operators were included per farm (per the U. S. Department of Agriculture's Census of Agriculture). In some states, key informants provided a list of names and the researcher contacted the potential participant. In other states, key informants facilitated the introduction between researcher and participant. Interested participants were asked to fill out an electronic demographic survey and schedule a phone interview. Table 1 presents an overview of participants included in this manuscript.

Table 1

Pseudonym and Farm Type for all Participating Farmers

Farmer Name	Type of Farm	Age	Race	Years Farming
Northwest				
Cassi	Diversified vegetables	46	White	10
Lilly	Seeds	32	White	6
Lala	Diversified Vegetables	61	White	38
Milly	Diversified vegetables, Poultry	61	White	20
Midwest				
Abby	Diversified vegetables, Poultry	43	White	3
Kelly	Diversified vegetables	32	White	10
Jenna	Diversified vegetables, Meat	32	White	6
Meredith	Bison, Cattle	42	White	14
Erin	Flowers	25	White	6
Shelby	Live goats, Goat cheese	31	White	30
Kara	Pork	34	White	14
Jess	Diversified vegetables	45	White	6
Brenda	Diversified fruits and vegetables, Poultry	62	White	11
Sheila	Dry beans, Flint Corn	62	White	13
Northeast				
Katy	Organic vegetables	59	White	48
Liz	Organic herbs, greens	45	White	23
Sarah	Vegetables and small fruits	60	White	29
Zara	Elderberry and Aronia	67	White	6
Ella	Diversified meats and vegetables	39	White	14
Tasha	Diversified vegetables	44	White	20
Beth	Mixed organic vegetables	59	Declined	>20
Gabrielle	Diversified livestock and vegetables	44	White	5

Table 1 (continued)

Pseudonym and Farm Type for all Participating Farmers

Gabrielle	Diversified livestock and vegetables	44	White	5
Henrietta	Herbs and specialty crops	55	White	30
Margaret	Diversified meat and poultry	50	White	8
Rhonda	Goat products	48	White	6
Susan	Sheep, chicken	69	White	
Dina	Diversified livestock and vegetables	25	White	5
Morgan	Diversified fruits, Value-added products	28	White	5
Julia	Diversified vegetables, Poultry	32	White	8
Sophie	Pork, Poultry	51	White	20
Charlotte	Diversified fruits and vegetables, Pork, Poultry	53	White	11
Kathleen	Nuts, Diversified fruits	30	White	11
Maddy	Herbs	30	White	8
Nicole	Herbs	33	White	10
Lauren	Meat	36	White	25
Mary	Diversified vegetables, Flowers	56	White	15
Martha	Diversified vegetables	>50	White	3
South Atlantic				
Laura	Diversified vegetables, Flowers	27	White	5
Daphne	Diversified vegetables	41	White	15
Olivia	Diversified vegetables, Flowers	45	White	20
Betsy	Diversified fruits and vegetables, Flowers	46	White	20
Bonnie	Diversified fruits and vegetables	46	White	23

The 42 farmers who agreed to participate in this study represent a diversity of farm types and farming experience. Respondents ages ranged from 25 to 67 years and years of farming experience ranged from 3 to 40 years. Most participants were first generation farmers, and 13 participants had at least one child under the age of 17. The revenue generated and dependence on

farming for livelihood among farmers varied as well. Approximately half of our sample of participants made at least 50% of their household income from their farm. Half of the women farmers in this study had some form of off-farm employment, and of those that didn't, 68% had a partner with an off-farm job. All interviews identified as white and non-hispanic or Latino, except for one interviewee declined to report her race.

While this study refers to women as a uniquely situated group in United States, it is important to mention that gender is not the only defining element in one's identity. There are many other elements, such as race, socioeconomic status, or sexual orientation that deeply impact farming experiences. Crenshaw's (1995) theory of intersectionality can help understand how farmers who experience multiple forms of marginalization face compounded barriers to accessing certain positions in agricultural contexts. Such is the case for women principal operators in the United States. While the number of women principal operators is on the rise, it is still the case that all but 4% of these women are white (U. S. Department of Agriculture, 2019). The participants of this study reflect this demographic of principle operators; except for one farmer who declined to report her race, all participants are white. This study lacks the important perspective of women of color who participate in farming in the United States and, therefore, findings but must not be considered generalizable to all women farming populations within the United States.

Interview Procedures

The interview protocol was co-constructed by a team of 11 researchers, including the first and second author. The second author provided weekly training on qualitative research methods, as well as guidance on the development and approval of the final interview guide. Interviews were semi-structured, which provided an ordered script of questions while still allowing interviewers "freedom to digress" to explore emergent themes (Berg & Lune, 20011, p. 61). With the goal of better understanding how women farmers use social media for maintaining information and social support on their farms, this study's interview protocol was organized into two sections. The first two questions asked the farmer to identify the different formal and informal agricultural networks in which they participated. Based on those responses, interviewees were asked to think about the network with which they felt most connected and how those networks used media to stay connected. The next six questions focused on what the network said or did when responding to individual and collective challenges. Farmers were asked to recall instances when they felt others said or did things to help them or others as well as to describe what they have said or done to help another person(s) in the network.

The same team of 11 researchers that developed the interview protocol conducted interviews, interviewing three to six participants each over a four-week period. All interviews took place over the telephone and lasted approximately 30-60 minutes. At the consent of the participant, interviews were recorded and transcribed verbatim using speechpad.com, an online transcription service. Transcriptions were reviewed for accuracy. All farmers and farm names were changed in the transcripts and data set to protect and maintain confidentiality.

The second author supervised the interview collection, providing weekly training sessions on qualitative research and methods before and during data collection and analysis. To support consistency in protocol use and probing strategies, the second author used bi-weekly check-ins that focused on reflection exercises, transcript peer review, and theme comparisons during this

same period. Interviews were collected until data saturation; no new themes (as analyzed before and discussed in bi-weekly meetings) emerged from new interviews (Boejie, 2002).

Analysis Methods

The authors used constant comparative methods to inductively identify themes in the data. Constant comparative analysis is a cyclical and continuous method of processing, reducing, and explaining (Lindlof & Taylor, 2011). Constant comparative methods recognizes that qualitative research is never purely inductive; indeed, our research questions and interpretations of the data are always embedded within our position in a given research topic and the external world. In the case of this study, researchers became familiar with empirical conceptualizations around resilience, women farmers, communication, and social support to provide informed contributions to the co-construction of the interview protocol. Interviews were conducted and analyzed to maintain a balanced variety of women farmers from high and low proportion states, as defined by the sampling criteria, and continued until saturation was reached and additional cases did not bring in any new information (Boejie, 2002).

To develop a holistic understanding of the data (Braun and Clarke, 2006), the author first read through an interview in its entirely without note taking. On the second reading, the author assigned open codes to every passage of the entire interview, only excluding introductory and concluding conversation that was not relevant to the interview protocol. According to Boeije (2002), open coding allows the researcher to label exactly what has been said in interviews, as well as observe consistencies within each case. For both steps, printed hardcopies of interviews were used. At the end of each open coding, the author wrote and organized codes on the back page to create axial codes that would allow for easy cross-case comparison. Axial coding involved "searching for indicators and characteristics for each concept in order to define that concept", and is also used to "discover the combinations of codes which exist" (Boejie, 2002, p. 398). This process followed for each individual interview. As the author began coding numerous interviews, cross-case similarities, as well as similarities to published literature, began to emerge and codes were organized to reveal themes in the data (Braun & Clarke, 2006).

As the author began to collapse and organize codes, they imported interview transcripts into Nvivo. Commonly used in qualitative research, Nvivo is a data management and analysis software that "provides a range of tools for handling rich data records and information about them for browsing and enriching text, coding it visually or at categories, annotating, and gaining accessed data records accurately and swiftly" (Richards, 1999, p.4). For this project, the bulk of the analysis was not done using Nvivo and the software was used primarily to store and access coded data. "Nodes" in Nvivo matches major themes that were emerging in the data set, and "subnotes" stored specific subthemes within these categories. Nvivo was used to further collapse and consolidate codes during the process, as it offered the opportunities to view similarly coded responses side by side. This iterative process continued until no new codes or themes emerged.

The first author drafted the manuscript while the second author provided weekly mentorship on qualitative methods and multiple rounds of edits to the manuscript. All participants are assigned pseudonyms in the manuscript. The authors used forceful and representative quotes from the interviews to represent the interviews' unique voices and to support our claims as researchers (Owens, 1984)

Findings

With the goal of increasing our understanding of women farmers' social media use and communication practices, this study examined how women principal operators in the United States use social media to maintain resilience in both their identities as farmers and the viability of their farm businesses. While the term "social media" can span far and wide to include blogs, newsletters, and YouTube, this analysis focuses on Facebook and Instagram as major platforms of social media, as those were the ones that came up in interviews. Facebook is an online social networking site where individuals, organizations, or businesses can create on online profile through which they share photos, thoughts, or respond to other's photos or comments. Instagram is an online photo-sharing platform that allows users to post captioned photos, post live stories, as well as follow and comment on others' accounts/photos.

An analysis of interviews demonstrated that women farmers who participated in the study had varying uses and perspectives on social media. Specifically, participants reported using social media to engage with customers, exchange information, and provide emotional connection. Farmers' satisfaction with these forms of communication on different social media platforms varied.

Social Media to Reach Customers

Women farmers in our study consistently praised the ability of social media to interact with and make connections to customers. Zara, an elderberry farmer in the northeast, says "Facebook is a major part of [my] business model" and that it is how she gains many of her customers and sales. Brenda, a diversified vegetable and livestock farmer in, also feels her blog and Facebook page, as well as her website, have been "invaluable for marketing her farm and building". She continued, "...on occasion, someone will just drive into our yard and say… "I'm visiting from West Virginia, and I read your blog. And, so, when I came here, I wanted to come to your farm." In this example, Brenda's blog and Facebook page allowed her to make strong connections to potential sales with customers outside of her immediate community. In small towns, being able to expand your customer base is crucial for maintaining viable businesses. Lala, a diversified vegetable farmer, says it is necessary for gaining customers. Even though she is "happiest with her hands in the dirt" and does not enjoy the energy it takes to sell, she says,

> "a successful farmer is going to understand that basically, you're growing for your customers. You're not growing just to improve the soil and to make, you know, beautiful, delicious food. If you don't have someone to feed it to, there's no direct purpose. And, so, that's the importance of technology to the farmer."

Lala had previously mentioned in the interview that she didn't find social media to be an effective tool for her farm. However, even she recognizes the necessity of the platform for marketing purposes. In each of these examples, having an online presence in order to build social connection was critical for acquiring the customers and sales farmers needed to maintain viable business models.

For others, social media was less about gaining new customers or promoting products, and more about developing authentic connections with their existing clientele. These participants sought to portray a story of their farm through their posts. For example, Julia, a diversified vegetable and egg farmer, says Instagram is "not really marketing...it is a way to create a story

about our farm and our life as farmers." She continues to explain that there are many messages she hopes to send through her social media presence: "I want wannabe farmers to like us so that maybe they'll work for us. I want local people to like us so that maybe they will buy from us. And I want other farmers to like us so that we can collaborate or information-share." Abby, a vegetable and chicken farmer, also discussed posting on Instagram for story-telling purposes. She said she "takes pictures from things that are growing in the field or a team that's working in the field, just [to] kind of keep people up to date on what's going on at the farm so customers can feel connected." These participants had an important take on marketing as they were not directly trying to promote products to their customers, but instead focused on developing loyalty from their customers by sharing a piece of their farms' day to day experiences. Morgan, a fruit and flower farmer, also uses social media for this purpose. She says she tries to post often to allow current and potential customers to learn more about her farm. She says, "I'll come across folks that I know are followers on Instagram. And a month later, they'll be like, "I've been thinking about your chicken, how is she?" Again, these examples suggest women farmers appreciate that social media allows them to be a bigger part of their customer's lives. Similar to Morgan's chicken, Brenda's cow has become a central focus in her farm's online presence. "My milk cow, Linda, she has her own Facebook page and she has a huge following. She died a year ago but she was, like, kind of the face of our farm and she inspired a lot of artists." In addition to her cow's Facebook page, Brenda keeps a blog that documents her venture into farming with no previous farming skills. Through social media, Julia, Abby, and Morgan stories all create an online identity that helps customers feel as if they know and can connect with the people behind the products that they sell.

Social Media for Information Seeking

In addition to marketing their services to external audiences, women farmers frequently used social media as a platform for sharing information among farmers. Lilly, a seed farmer, says Instagram is "a pretty huge connection point...it's kind of a fast and instant way to be like, 'Hey, how did you set up that high tunnel?' or "Oh, how are you guys harvesting that seed?' Before social media, Lilly may have had to bring those questions to her local extension professional or endure the trial and error method. Instead, Lilly used and appreciated Instagram's capacity to efficiently gather information in order to perform tasks on her farm. However, Lilly did admit some problems with the platform. She explained "And, it's not the most long-standing resource or the most, I guess, comprehensive, but it is a pretty instant way to see what other people are up to and get that sort of information." Despite some limitations, for Lilly, the speed with which she could gather information, or content, was a primary reason for using Instagram. Similar to the hashtag function on Instagram, Erin, a flower grower, likes that you can search back on Facebook posts to see if someone has already posed the same question you have. The example she gave dealt with planting Larkspur on her farm. She says "when I have really specific questions, there's a flower farmers Facebook group that I'll reference. So, if I'm like, 'Hey, how do it plant Larkspur?...I can go onto this Facebook group and type in 'Larkspur.'" Erin continues on to discuss how this post search eventually led her to suggestions for growing. While Lilly and Erin referred to different social media platforms, both emphasized the ability to save time through searches on these tools.

Along with quick methods of information gathering, social media can also provide an efficient form of validation when there is perhaps no clear answer to a problem. Danielle, a flower farmer, valued her flower farmers Facebook group for this reason. Her story describes a

different form of content gratification: “sometimes I ask questions that I have searched and searched and searched, can’t find an answer to, so I post there, and you know, I guess there’s a reason why I couldn’t find the answer, because nobody knows.” Danielle’s search did not lead her to solutions like Lilly or Erin’s, but it still saved her time researching tips for her question when she learned there were no answers out there for her problem yet.

While the speed of information seeking was valued by some farmers, other farmers found social media’s ability to transcend geographic space to be important. Charlotte, a diversified vegetable and livestock farmer, explained that Instagram is a useful platform for information exchange. For her, the hashtag feature on Instagram was an invaluable feature that helped her find others who also raise pigs, regardless of their location. Lilly, a farmer in a rural area of the northwest, explained that rural locations limited the options for farmers, and she views social media as a “main connection tool” for her to find others with similar expertise. Meredith, a bison and cattle farmer, also appreciated the ability for social media to transcend space, and particularly liked that it helped her feel connected to other women farmers. She says “when you get on Facebook, it’s not about people you know, but [people] you should be really touching base with.” Meredith valued the chance to hear other women talking about farming and said she often feels like an “oddball” outside of that space… “Within my role in the community, I’m an oddball. And within the bison industry, I’m kind of an oddball.” Whether it was because of the type of farm, geographic location, or gender, social media helped to build a sense of connection among otherwise disconnected farmers.

Social Media for Emotional Connection

While information sharing dominated women famers’ talk about how social media improved farmer-to-farmer communication, women farmers also mentioned that these platforms included social support messages. However, the variance with which participants found these messages to be useful varied greater than when they discussed information sharing or marketing tasks on these platforms.

Some interviewees found social connection to be a critical benefit of social media use. Abby, an organic vegetable and poultry farmer, said she began following groups on social media because she saw them as places for “celebrating people’s successes,” such as being published in an article or starting a new project. Others found it inspiring to follow each other’s progress on their farms. For example, Karen says that “it’s like ‘Oh, wow. Look, it’s 30 miles south of us. It’s a couple weeks ahead of us,’ and ‘Wow, they’re planting that thing that I’m planning to plant in two weeks, so I must be on target,’ you know, that kind of...reassurance. Plus, by appreciating each other’s posts, sometimes, it’s...just like a little cheer, or pep talk, or something. Go for it, you know?” Karen’s example speaks directly to emotional support because she does not necessarily get tangible information from help from others that send her messages, but they elicit a feeling of determination and confidence that directly benefits her work. In both of these examples, small gestures from other farms’ social media profiles gave Abby and Karen the encouragement to continue.

In addition to celebrating, participants connected over shared struggles in the farming community. Abby described a trending hashtag on Instagram that showed failures happening on farms: “We all have them, and we all make mistakes. ‘And so, let’s show the failures so that we can all feel like we’re human.’” Abby and others raise the point that on social media you only see farmers as they choose to represent themselves. This can create further isolation because you

start to believe you are alone in the struggles on your farm, as if others are not experiencing them as well. Abby continues, "I did a post using that hashtag [related to showing failure]...I think most farmers feel like we have to show the beauty, because we're surrounded by it, but I do think that it really grounds us when you show the failures or the struggles." The process of expressing these struggles provided relief to Abby. Olivia, a diversified vegetable and flower grower, had similar comments about showing struggle. She found commiserating with others via Instagram posts to be helpful: "when everyone's just posting how beautiful everything is,…,I'm like 'Yeah, that's not really the case,' so I appreciate it when we all get real and just like, 'Wow, my fields are totally flooded or my greenhouse just collapsed under the snow and this is pretty sucky". Laura, a vegetable grower, calls Instagram her "public journal"; a way for her to "share how I'm feeling deeply, because I know that there are other people out there who are feeling that same way [about their farming struggles] and they're just afraid to talk about it or they feel alone." Laura says that the emotional benefits that Instagram provided was more important to her than the transfer of technical farming information, which she also sees a lot of on Instagram. During the low, isolated moments of farming, Abby, Laura and Olivia valued being able to connect with others online over their shared struggles.

While participants said that messages intended to provide relational or emotional connection were commonly exchanged on social media platforms, not every person said they engage in that type of message exchange. For example, Lala, a diversified vegetable farmer, expressed concerns that it takes away from time out in the field "doing the groundwork." Participants that did not find social media useful had to determine which content to prioritize online. Lala accepted that social media was necessary for marketing, though it "does nothing for the earthworm." These farmers engaged in information and task-based conversations and avoided relational or emotional conversations—even those related directly to completing tasks. For instance, Karen explained that the Facebook groups she participates in have a mix of conversations she considered useful and "clowning around." She explained, "I'm in [the group] for, I wanna learn about this thing, you know? … sometimes, someone will post something and some of the responses are really straightforward, and some of them are just kind of goofball." Karen used social media to get information about her farm practice; therefore, she valued messages that were task or information focused. Liz, an organic herb and greens farmer in Maine, felt particularly strong about this topic. She said she has "zero room [in her day] for conversing online." She uses the internet for "reading articles and educating" herself, but, aside from advertising to customers, Liz says "Facebook is practically zero support in terms of my resilience." Lala, Karen and Liz's comments suggest that not everyone views emotional support through social media platforms as a positive contribution to their persistence as farmers.

In addition to evaluating usefulness of replies to determine social media engagement, others monitored their commenting behaviors. Lilly says she tries to minimize others' time wasted reading through what she perceived as unhelpful posts. She did this by making her responses "quantitative." By this, Lilly means providing answers that give other farmers responses that will help them solve problems, instead of a response like "Oh, do your best, you're doing great." This is an interesting point because other farmers valued and felt motivated by the type of supportive message she viewed as unhelpful. Lilly's comment reflects how her social media usage corresponds to her perceptions of the media's benefit. For Lilly, sharing task or information related information was a good use of her time because she saw it directly helping a persons' farm business in a way that minimized distraction from her farm. While Lilly presents an

example of the way she gives support and Karen is referring to support she receives, in both cases, interviewees were clear that they prefer to exchange technical information online over relational support.

Discussion

This study aimed to understand women farmers' motivations and perceptions around social media use. Overall, interviewees saw many benefits to the use of social media for information support and connecting to customers. Social media was easy to access for many participants. It allowed for efficient exchange of information and was viewed as necessary for gaining and retaining a customer base. These findings support past research conclusions on the multifunctionality of social media for farm businesses (Abrams & Sackman, 2014; Phillips et al., 2018). However, this study's unique emphasis on the voices of women farmers shows that participants had mixed feelings about the usefulness of social media for social support and authentic connection with others, as well as its efficiency as a tool for farmers.

Theoretical Implications

The analysis of our interview data both benefits from and contributes to Uses and Gratification theory. Consistent with the theory, this study demonstrated that women farmers are active agents in their media consumption and make conscious decisions based on their own personal and business needs (Katz et al., 1973; Severin and Tankard, 1997). Content, social, and process gratification, the three categories put forth by Stafford et al., (2004), were present and offer novel ways of understanding such media preferences in the context of women farmers. Lastly, in addition to pursuing social media in ways they found most useful to them, this study's analysis demonstrates that women farmers felt most discouraged by social media when it did not allow them to easily achieve their end goal.

Content gratification drove much of our participants' motivation around social media use; farmers experienced positive benefits from using social media for efficient access to information. Farmers mostly discussed gathering information related to farm issues such as disease, pests, and technical information, as well as marketing strategies.

Social gratification also was perceived as beneficial to many of our women farmers in two ways. First, interviewees felt that their businesses benefitted through developing relationships with their customers via social media. In particular, many farmers discussed storytelling on social media as a method to build customer loyalty. The stories provided in our results emphasize that marketing is not only restricted to advertising and promoting products. The second form of social gratification that emerged in our analysis was the exchange of emotional support among farmers. Whether it was sharing celebration, sharing struggles, or sharing the commonality of being a women farmer, many interviewees felt a sense of motivation by exchanging messages with others. However, the perceived emotional benefits were varied among our population and suggest that social gratification as a driver of social media use is not a given among women farmers. Some farmers believe the benefits to social media that others may experience do not outweigh the costs of time lost outside working in the field. This raises important questions around isolation, farming, and small business needs. If farmers purposefully avoid messages that relate to relationship building and emotional encouragement in order to protect their productivity, how does this impact individual wellbeing?

The third gratification, process gratification emerged in unique ways that further complicates the uses and gratification theory. The use of social media for pure enjoyment of the process was largely undiscussed by interviewees in this study. This finding is not surprising considering that farm-work, especially when coupled with marketing and sales efforts, require extensive time and attention. Thus, farmers pursue social media usage in the ways that feel most useful to them for their needs, which excludes perusing and reading social media for the enjoyment of the activity. However, the storytelling component of social media, which contributed to customer retention and loyalty on farms, also served a dual purpose as a performance of identity for women farmers. Traditionally, women have struggled to legitimize themselves as farmers (Keller, 2014; Leckie, 1996). The stories of farmer identity performance via social media is a powerful finding and enriches conceptualizations of process gratification.

Practical Implications

The benefits that participants found from their pursuit of these platforms provide important considerations for facilitating social networking and interaction among women farmers; a key strategy for women to overcome barriers to accessing resources and information in their field (Barbercheck et al., 2009; Trauger et al., 2008). Our results offer insight into perspectives on social media use by women farmers, which will be valuable to organizations and policymakers that are interested in the potentials of social media.

As our analysis suggests, social media supports farmers' resilience in a multitude of ways: by providing farming-related knowledge, by serving as a platform for connecting with and marketing to customers, and by providing emotional support through the shared struggles of farming. However, our results also underscore that these experiences are complex and varying. Therefore, organizations should be wary of promoting social media as a one size fits all tool. For example, farmer's perspectives on using social media for informational and emotional support varies greatly from farmer to farmer. If a farmer does not use social media for emotional support, they may become frustrated by trainings that assume or suggest they do. One solution to this challenge may be to develop social media groups that are explicit about their intentions and allow farmers to decide for themselves if it will be useful to them. Similarly, agricultural organizations could create a basic questionnaire or decision-tree that may help women farmers explore the uses of social media that will most closely align with their needs.

One aspect of social media that had consensus among farmer participants that, whether they used it or not, there were benefits to using social media for marketing to customers. Providing more training related to this skill may help farmers attract and retain customers and increase sales on their farms. In addition to helping with promotion of products, this may simultaneously help build connections among farmers through co-teaching or collaboration opportunities. Based on results and implications of the uses and gratifications theory, farmers may be most receptive to these type of educational trainings.

Limitations and Future Research

Our findings offer critical insight into farmers' perspectives on social media use. In particular, the dual purpose of story-telling marketing and identity performance was a compelling and unanticipated use of social media. Further research should look deeper into this practice within social media use.

Another research finding that calls for future investigation is the bifurcation of farmers who seek information support and farmers who seek emotional support. Both practices face trade-offs; those seeking information support sacrifice connection in an otherwise isolated profession, and those seeking personal connection sacrifice time dedicated to tangible productivity. Future research questions may seek to identify the relationship between these trade-offs and farmers' individual well-being.

This study was limited in its ability to represent all women farmers' voices due to a lack of diversity in our sample. Women in this study were either principal farm operators or operators when four or less were counted on the farm. Due to increased exclusion of women who lie at the intersection of multiple elements of marginalized identities (Crenshaw, 1995), such as race and gender, 95% of women principal operators are white (U. S. Department of Agriculture, 2019). Future research should widen its sample population to those in other positions on farms, such as farm laborers, to understand how women of color use social media as a form of resilience communication.

Conclusion

Farmers and small farm operations in the U. S. today face an uphill battle of enduring environmental and economic challenges; yet, women farmers have always shown persistence in face of enduring challenges. The resilient practices that women utilize on their farms are critical to support in order to benefit the well-being of farmers, prevalence of small farms, and rural communities alike. In an era of social media boom, this study provided relevant and timely information about social media's contributions to women farmers' communication practices. Continued research and support will continue to inform organizations and online communities that facilitate the continuation of these practices.

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