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Carlos Alberto Moreno-Ortiz

Universidad de Ciencias Aplicadas y Ambientales U.D.C.A., carlosmoreno@udca.edu.co

Donna J. Peterson Dr.

Mississippi State University, donna.peterson@msstate.edu

Alba J. Collart

Mississippi State University, alba.collart@msstate.edu

Laura Downey

Mississippi State University, laura.downey@msstate.edu

Susan Seal

Mississippi State University, susan.seal@msstate.edu

See next page for additional authors



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Carlos Alberto Moreno-Ortiz, Donna J. Peterson Dr., Alba J. Collart, Laura Downey, Susan Seal, and Roberto Gallardo

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CARLOS ALBERTO MORENO-ORTIZ¹, DONNA J. PETERSON², ALBA J. COLLART²,
LAURA DOWNEY², SUSAN SEAL², AND ROBERTO GALLARDO³

AUTHORS: ¹Universidad de Ciencias Aplicadas y Ambientales U.D.C.A. ²Mississippi State University. ³Purdue University.

Abstract. We examined small farmers' use of and preference for different channels for marketing agricultural products and explored differences by gender, age group, and education level. Farmers markets and social media were preferred channels, with participants under age 55 being more likely than those 55 and over to prefer and use social media and agree that social media would be useful for promoting products and increasing sales. While selling via social media could provide a larger market, one challenge is that the average age of Mississippi farm operators is 59. Therefore, Extension must consider multiple approaches for delivering training on marketing.

INTRODUCTION

New farmers are emerging across Mississippi as a response to multiple concerns, including a recognition that the commodity system is not effectively responding to the emerging local foods market and a desire for higher quality food (Meter & Goldenberg, 2014). Direct-to-consumer marketing channels (e.g., farmers markets, consumer-supported agriculture [CSA], and roadside stands) are important to enhancing local food systems in rural areas (Henneberry et al., 2009; Hughes et al., 2008; Sadler et al., 2013; Sneed & Fairhurst, 2017), but consumer awareness of markets can affect vendor sales.

Research has shown that social media is an important marketing channel for farmers markets (Tao et al., 2020). However, small farmers may benefit from using social media to market their products directly rather than through farmers markets. Social media platforms (Facebook, Twitter, YouTube, etc.) convert consumers into marketers and advertisers who can create positive or negative pressure for a business, its products, and its services (Akar & Topçu, 2011; Roberts & Kraynak, 2008). The purpose of this study was to assess small farmers' use of and preference for social media versus other more traditional channels for marketing their agricultural products.

Although social media is popular and easily accessible, Sumner (2014) and Liang (2014) suggested that farmers lack the expertise and skills in technology platform tools to implement varied marketing strategies. While farmers may have experience using social media for personal purposes (e.g., staying in touch with family and friends), they may not have experience using it for business purposes. The average age of principal farm operators in Mississippi is 59 years, with 34% age 65 or older (U.S. Department of Agriculture National Agricultural Statistics Service, 2019). Because older adults are less likely to use social media than younger adults are (Pew Research Center, 2017), Mississippi faces a potential challenge. While the demand and infrastructure for local foods are stronger in some parts of Mississippi than in others (Meter & Goldenberg, 2014), the preferences of farmers related to marketing their agricultural products are not documented. Identification of these preferences can help inform the development of Extension programming and other resources.

METHOD

PARTICIPANTS

Participants in the present study were a convenience sample of farmers in northern Mississippi who sell their agricultural products via traditional direct-to-consumer channels of farmers markets, CSAs, and on-farm stores. Northern Mississippi was selected as the target area due to its proximity to Extension specialists in agricultural economics and community development and some Extension agents who work closely with farmers markets. The connections this proximity affords could increase the sustainability of Extension programming.

Potential participants were identified through the U.S. Department of Agriculture (USDA), Local Food Directories; National Farmers Market Directory, Government of Mississippi, Farmers' Markets Directory; and the Mississippi Department of Agriculture & Commerce, Farmers Markets in Mississippi. At the time of data collection (summer 2018), Mississippi had 94 farmers markets (Snyder, 2018); almost all counties had one, while a few counties had two or more. Many farmers sell their products at multiple markets each week (Snyder, 2018). In northern Mississippi, 37 farmers markets and eight CSA groups were identified. The first author contacted each farmers market or CSA manager to obtain permission to recruit study participants from that location; 14 agreed. A total of 169 farmers (unduplicated) participated.

DATA COLLECTION AND PROCEDURES

Data were collected by using a questionnaire. The first author visited each establishment and talked individually with each potential participant about the purpose of the study and the time needed to complete the questionnaire (approximately 8 minutes). He remained at the establishment when the questionnaire was completed to address any participant concerns. The study was reviewed by the Mississippi State University Institutional Review Board and was classified as "exempt."

The full questionnaire contained 36 questions with categorical, Likert-type, and checklist response formats, but only 15 were included in the present analysis. Categorical items documented gender, age, and level of education (see Table 1). General computer experience and quality of social media use experience were assessed on a 5-point Likert-type scale ranging from *very poor* to *very good*. Use of social media for business purposes (yes/no), platforms used (checklist), and number of years and hours per day using social media (categorical) were assessed. Marketing channel preferences and reasons that would prevent the use of the different marketing channels were measured through checklists. Four 7-point Likert-type items (ranging from *strongly disagree* to *strongly agree*) assessed participants' perceptions of the degree to which social media use could improve their work performance. Interest in an Extension program about marketing agricultural products using social media was documented through a yes/no response.

Data were compiled using Excel software, and the Statistical Package for the Social Sciences - SPSS® (Version 24.0) was used for analyses that included frequencies and cross tabulations. Cross tabulations were performed to see whether responses differed by participants' gender, age group, or education level, with special attention placed on age (18–54 years vs. 55 years and over), knowing that younger adults are still more likely to use social media than are older adults (Pew Research Center, 2017).

RESULTS

More than half (55.6%) of the participants were female, and 44.4% were ages 55 and over (see Table 1). In terms of education, those with a college degree or higher and those with less than a college degree were almost evenly split. Two thirds (67%) reported *good* or *very good* computer experience.

PREFERRED MARKETING CHANNELS

Most participants (98.2%) preferred farmers markets as a marketing channel to promote their products, while 47.3% preferred social media (see Table 2). More males than females reported a preference for roadside stands ($\chi^2 = 4.851$; $df = 1$; $p = .028$), and participants ages 18–54 were more likely to prefer social media than those ages 55 and over ($\chi^2 = 21.095$; $df = 5$; $p = .001$).

Two-thirds ($n = 117$; 69.2%) of participants reported using social media for business purposes. As shown in Table 3, Facebook was the most commonly used platform. As might be expected, participants who ranged in age from 18 to 54 years were more likely to report using social media for business than those ages 55 and over

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Table 1. Participant Characteristics ($n = 169$)

Variable		Frequency	%
Gender	Female	93	55.0
	Male	76	45.0
Age	Between 18 and 24 years	13	7.7
	Between 25 and 34 years	23	13.6
	Between 35 and 44 years	25	14.8
	Between 45 and 54 years	33	19.5
	Between 55 and 74 years	65	38.5
	75 years or older	10	5.9
Education	Less than a high school diploma	4	2.4
	High school degree or equivalent (e.g., GED)	27	16.0
	Some college	54	32.0
	Bachelor's degree (e.g., BA, BS)	51	30.2
	Some graduate school	13	7.7
	Graduate degree (e.g., MA, MS, PhD, JD, MD, EdD)	20	11.8
Computer Experience	Very Poor	8	4.7
	Poor	11	6.5
	Moderate	36	21.3
	Good	58	34.3
	Very Good	56	33.1

Table 2. Preferred Marketing Channels for Promoting Agricultural Products

Marketing channel	Overall frequency (%)	Participants ages 18–54 frequency (%)	Participants ages 55 and over frequency (%)
Farmers market	166 (98.2)	91 (54.8)	75 (45.2)
Retailer	58 (34.3)	37 (63.8)	21 (36.2)
CSA	34 (20.1)	23 (67.6)	11 (32.4)
Roadside stand	34 (20.1)	25 (73.5)	9 (26.5)
Website	41 (24.1)	28 (68.3)	13 (31.7)
Social media	80 (47.3)	58 (72.5)	22 (27.5)
Other	21 (12.4)	14 (66.7)	7 (33.3)

($\chi^2 = 19.460$; $df = 5$; $p = .002$). The younger participants more frequently reported using each type of social media platform than the older participants did, except for Wikis. Nearly half of participants reported good or very good experience with the use of social media (47.3%). More than half (56.9%) of those who used social media for business had been using it for three or more years, and nearly half (49.5%) reported using social media less than 1 hour per day for business purposes.

When participants were asked about the degree to which social media use could improve their work performance, more than two thirds (69.3%) agreed that they would find social media useful to promote their agricultural business or products. The majority agreed that use of social media would enable them to complete tasks related to promoting their business or products more quickly (61.6%), that use of social media would increase their productivity to promote their business or products (57.6%), and that use of social media would increase their chances of getting more sales in their business (65.7%). Participants who ranged in age from 18 to 54 years were more likely

Table 3. Social Media Use for Business Purposes ($n = 169$)

Social media platform	Overall frequency (%)	Participants ages 18–54 frequency (%)	Participants ages 55 and over frequency (%)
Facebook	108 (92.3)	70 (64.8)	38 (35.2)
Twitter	23 (19.7)	19 (82.6)	4 (17.4)
Instagram	46 (39.3)	39 (84.8)	7 (15.2)
Pinterest	12 (10.3)	10 (83.3)	2 (18.7)
Snapchat	4 (3.4)	4 (100.0)	0 (0.0)
YouTube	17 (14.5)	13 (76.5)	4 (23.5)
LinkedIn	13 (11.1)	11 (84.6)	2 (15.4)
Wikis	1 (0.8)	0 (0.0)	1 (100.0)
Blogs	4 (3.4)	4 (100.0)	0 (0.0)
Other	2 (1.7)	1 (50.0)	1 (50.0)

Table 4. Reasons That Would Prevent Sale of Agricultural Products Through Various Marketing Channels

Marketing channel	Expensive fees (%)	Low flow of customers (%)	High logistic costs (%)	Too many food regulations (%)	Limited hours (%)	Other reasons (%)
Farmers markets	9.5	26.6	7.7	8.9	14.8	6.5
Retailer	14.8	5.3	11.8	17.2	2.4	4.7
CSA	4.1	10.7	7.1	4.7	7.1	3.6
Roadside stand	3.0	23.7	6.5	3.6	7.7	4.7
Website	10.1	9.5	8.3	3.6	4.1	5.3
Social media	7.1	7.1	6.5	1.8	2.4	4.1
Other channels	0.0	0.0	0.6	0.0	0.0	1.8

Note. The highest percentage for each barrier within a marketing channel is bolded.

to agree that they would find social media useful to promote their products ($\chi^2 = 14.644$; $df = 6$; $p = .023$) and that using social media would increase the chances of more sales ($\chi^2 = 16.628$; $df = 5$; $p = .005$). No other group differences were seen.

Table 4 provides general information about reasons that would prevent farmers from selling their products through various marketing channels. *Low Flow of Customers* was the most commonly selected reason to prevent them from selling their agricultural products at farmers markets (26.6%), through CSAs (10.7%), or at roadside stands (23.7%). *Too Many Food Regulations* was most commonly selected (17.2%) as a reason that would prevent them from selling their products in a retail setting. Finally, 10.1% of participants selected *Expensive Fees* as a reason to prevent them from selling their products on websites.

INTEREST IN AN EXTENSION PROGRAM ON MARKETING

The final item asked participants whether they would be interested in attending a Mississippi State University Extension program about marketing agricultural products by using social media. Less than half (42.6%) of participants overall expressed interest, with males being more likely than females to express interest ($\chi^2 = 4.287$; $df = 1$; $p = .038$). No other group differences were seen for age group or education level.

DISCUSSION

To inform the development of Extension programming and other resources, we assessed small farmers' use of and preference for social media and other more traditional channels for marketing their agricultural products and

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examined group differences based on gender, age group (under 55 and 55 or over), and education level. Farmers markets (98%) and social media (47%) were the most commonly preferred marketing channels. Two-thirds of participants used social media for business purposes, with Facebook being the most common platform. Few group differences were noted, except as they related to age group. Participants under age 55 were more likely than those ages 55 and over to prefer and use social media. Those under age 55 were also more likely to agree that social media would be useful to promote their products and that using social media would increase the chances of more sales.

The difference among age groups in actual and preferred use of social media for business purposes is not surprising. Research has shown that younger adults are more likely to use social media than older adults are (Pew Research Center, 2017). Older adults may have used social media as a marketing tool on a limited basis. One potential way to engage older adults unfamiliar with the diverse uses of social media as a marketing tool would be to incorporate success stories as examples along with information about the benefits of and “how-to” for using social media. Young farmers may have success stories to share. Because research suggests that young farmers in Mississippi prefer learning about farming from other farmers (Meter & Goldenberg, 2014), and because older farmers may have expertise that younger farmers desire, a program that uses cross-age teaching may be well received by all audiences.

Participants identified reasons that would prevent them from selling their agricultural products through various marketing channels. The most common barrier for selling at farmers markets, through CSAs, or at roadside stands was a *low flow of customers*. Selling via social media could help overcome this barrier. Because 69% of participants indicated that they already used social media for business purposes, programming may be needed on two levels—one for beginners and one for farmers already using social media—to help them learn the most effective ways to use social media for marketing their agricultural products.

One significant challenge is that less than half (42.6%) of the study's participants expressed interest in attending an Extension program on marketing through social media. Unfortunately, no follow-up questions were included to illuminate why. Because competing time demands often influence program participation, Extension could provide other resources (e.g., publications, online marketing tools, and technical assistance) on social media as a marketing tool to reach farmers. Further research is needed to determine the perceived barriers to participation in an educational program on marketing.

CONCLUSION

Traditional direct-to-consumer marketing channels for agricultural products are important for enhancing local food systems. Yet the extensiveness of social media offers another avenue for small farmers to directly reach customers. We examined small farmers' use of and preference for various channels for marketing their agricultural products. While most participants preferred farmers markets as a marketing channel, many indicated a preference for and current use of social media for business purposes. This result suggests a need for different types and levels of Extension programming and resources based on social media experience.

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