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Characteristics of Oklahoma Agritourism Facebook Posts

Abstract

Agritourism is recreational travel for agricultural activities. While it provides many benefits, such as rural development and heritage preservation, many agritourism operators express challenges in marketing their operations. Social media is increasingly common in tourism marketing, but little research exists describing current marketing practices. Quantitative content analysis was used to describe 174 Oklahoma agritourism operations' Facebook page activity in June 2018. Original posts created by the agritourism operations and community posts created by the general public had similar amounts of public interaction. Post interactions were not related to post length, and original post interactions were also not related to overall page likes. Live videos and traditional posts received the most interaction amongst types of original posts. Facebook event posts made by the agritourism operation received more public interaction than event posts made by the general public. Agritourism operators should focus on quality over quantity of information and be wary of creating posts in an "echo chamber" as only a small proportion of a large page following interact with posts. Marketing practitioners should avoid providing one-size-fits-all advice in Facebook marketing, as there was a large variety of Facebook activity observed. Future research should more specifically describe content of posts and consider perspectives of agritourism operators and visitors towards current Facebook marketing strategies.

Keywords

Facebook, agritourism, Excellence Theory, content analysis, marketing

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Introduction

Agritourism is defined as “a set of activities taking place at agricultural operations for the purposeful benefit of visitors” (Murphy & Melstrom, 2017, para. 1). It is an expanding industry in the Great Plains region of the United States (Tweeten, Leistriz, & Hodur, 2008) and provides opportunities for farm families to diversify household income as commodity prices decline (Amanor-Boadu, 2013). In Oklahoma, 761 operations generated more than \$6.5 million in revenue from agritourism (United States Department of Agriculture, 2019).

Agritourism provides many private and public benefits through farm income and employment, public agricultural education, niche food production and consumption, and environmental protection and education (Flanigan, Blackstock, & Hunter, 2015). Agritourism can provide economic incentive for preservation of agricultural heritage (Barbieri, 2013; LaPan & Barbieri, 2013; Mettepenningen et al., 2012; Valdivia & Barbieri, 2014) while also improving farm families’ quality of life (Dickinson, 2001; Tew & Barbieri, 2012) and providing family-related activities for visitors (Molera & Albaladejo, 2007; Tew & Barbieri, 2012).

Agritourism operations’ success depends on effective marketing (Schilling & Sullivan, 2014). However, marketing and adapting to consumer communication preferences can be a challenge in agritourism management preferences (Schilling, Marxen, Heinrich, & Brooks, 2006). Agritourism operators have expressed a lack of coordinated statewide efforts in agritourism marketing in Pennsylvania (Ryan, DeBord, & McClellan, 2006) and New Jersey (Schilling et al., 2006), and have shown an interest in marketing training (Miller, McCullough, Rainery, & Das, 2010).

Social media enables individual tourists to receive customized information from tourism marketers about a destination (Zeng & Gerritsen, 2014), and public interaction with social media marketing content can serve as an evaluation tool for destination marketers to assess effectiveness of marketing (Hanna & Rowley, 2013; Zavattaro, Daspit, & Adams, 2015). The role of social media in trip planning will likely continue to increase (Phillips, Thilmany-McFadden, & Sullins, 2010), and the “internet’s marketing function should not be neglected” (Zhou, 2014, p. 237). Within the state of Oklahoma, 17% of agritourism visitors first heard about the operation they visited via social media (Murphy & Melstrom, 2017). Furthermore, observing content from other visitors on social media may increase the likelihood of booking a trip to the same place (Marder, Archer-Brown, Colliander, & Lambert, 2018).

Social media must be recognized for its ability to assess and develop brand image from user-generated content and reviews (Kim, Li, & Brymer, 2016; Marine-Roig & Clave, 2015), influence decisions to visit and perspectives of rural areas (Marchiori & Onder, 2015; Onder & Marchiori, 2017; Phillips et al., 2010), attach emotions to rural locations (Zhou, 2014), create a narrative-based, personable story for a tourist destination (Hanna & Rowley, 2013), measure visitors’ brand loyalty to a location (Zavattaro et al., 2015), provide customized information to individualized users (Zeng & Gerritsen, 2014), and attach visual images of culture and agriculture to a location while clarifying misperceptions of those locations (Joyner, Kline, Oliver, & Kariko, 2018; Kotsi, Balakrishnan, Michael, & Ramsøn, 2018). Additionally, social media can provide advantages over websites and paid advertising in event promotion such as being able to provide more information about events than traditional advertising allows or being able to provide a more targeted approach when advertising to the public based on social media users’ profiles (Lee, Xiong, & Hu, 2012; Moise & Cruceru, 2014).

However, social media management is largely unknown by tourism marketing practitioners

and scholars (Cho, Schweickart, & Haase, 2014), and Zeng and Gerritsen (2014) specifically called for quantitative content analysis of tourism social media to establish a baseline of current social media use patterns. Past social media research has considered tourism marketing factors such as online reviews and information search patterns of potential visitors (Xiang & Gretzel, 2010) and post interaction with types of media content, such as pictures and videos (Hannah & Lam, 2017). However, Zeng and Gerritsen (2014) reported the role of social media in tourism marketing is largely unexplored.

Despite research into social media's application to tourism marketing being largely unknown (Cho et al., 2014), there are some applications. Chase, Kuehn, and Amsden (2013) found that the majority of agritourism operations had engaged in improvements or new ventures, which could include social media marketing, though they did not state what number specifically were doing so nor what those activities were. Alonso, Bressan, O'Shea, and Krajsic (2013) looked at wineries, which are within the realm of agritourism, and found the majority of wineries were involved in tourism but that social media options were underutilized. Otherwise, much of the literature on social media for agritourism consists of advice, not research (e.g., George & Rilla, 2011; Phillips Thilmany-McFadden, & Sullins, 2010)

While agritourism is underexplored, there is research into agricultural producers' online presences, which could shed some insight into agritourism, though the goals may differ based on target audiences. Past work has shown social media can improve the chances of success for agricultural operations (Abrams & Sackman, 2014; Gibson, Ahrens, Meyers & Irlbeck, 2012), though like the results of Alonso et al. (2013), agricultural producers appeared to be underutilizing social media (Shaw et al., 2015). A variety of resources exist for producers (e.g., Cornelisse, 2016; Culler, 2018; Pratt, 2018), though recommendations can vary between sources, which indicates the need for more research into social media use for agricultural operations, including agritourism.

Theoretical Framework

Excellence Theory posits that there are six characteristics needed for successful public relations (Grunig, 2006). The public relations leaders should be a part of the organization's top-level management, public relations should be a distinct but complementary function to the organization's other communications activities, employee satisfaction should be present, men and women should be valued equally in the organization, racial and ethnic equality should occur, and the organization should operate ethically.

A key aspect of successful public relations is that businesses go beyond profit to have a societal benefit (Grunig, Grunig, & Dozier, 2002). This means the organization and its external stakeholders are on equal communication ground that is devoid of power dynamics and manipulation by the organization (Grunig, 1989), which also benefits the external stakeholder receiving the information (Waters & Williams, 2011). This is referred to as two-way symmetrical communication. This foundational point is also a common criticism of Excellence Theory because many have viewed it as unrealistic because organizations will put their own needs first (Davidson, 2016), but in an age of the inherently interactive nature of social media (Comm, 2009), two-way symmetrical communication becomes more feasible because organizations and users can more directly interact with each other, which can help balance the power dynamics between the two parties. As the media environment evolves, research needs to continue to address the feasibility of two-way symmetrical communication.

The specific aspect of Excellence Theory addressed in this study is the theory's categorization of four models of public relations: press agency, public information, two-way asymmetrical, and two-way symmetrical (Laskin, 2009). Waters and Williams (2011) defined

these four models and related them to Twitter characteristics observed by government agencies. Press agency is one-sided without relying heavily on research into consumers' preferences; it can be observed on Twitter through communication that is attention-seeking. Public information is similarly one-sided but seeks to share information that is interesting and useful to the audience; examples include sharing information from other sources and reminding of future events. Two-way asymmetry is a disingenuous dialogue between participants and the Twitter page, intended primarily to learn characteristics and motivations from an audience; examples on Twitter include surveys and polls. Two-way symmetry is based on genuine conversations with the goal of building mutual understanding; examples on Twitter include attempts to resolve conflict and using references to other Twitter accounts.

A variety of factors influence public interaction with social media. For example, Hampton, Goulet, Marlow, and Rainie (2012) found social media users interact with social media passively and are more likely to "like" than share content, while Saxton and Waters (2014) suggested interaction can be influenced by post content, and Moe and Schweidel (2012) found customer engagement behavior existed on an intensity threshold with less frequent users more likely to follow a bandwagon effect. Public interaction may suggest high involvement with the post message (Kim, 2018; Kim & Hang, 2017). Also word count, videos, images, and links may influence the number and type of post interactions (de Vries, Gensler, & Leefland, 2012; Pino et al., 2018; Sabate, Berbegal-Mirabent, Cañabate, & Lebherz, 2014). Hashtags can serve as a tool to enable social media users to search for posts based on specific topics for which they are interested (Sevin, 2013; Uşaklı, Koç, & Sönmez, 2017), and tagging friends in posts can also increase post interaction by communicating confidence in a post (Oeldorf-Hirsch & Sundar, 2015). While there are a variety of ways people have assessed engagement and interaction, there is not strong consensus on which measurements are most effective. Peters, Chen, Kaplan, Ognebeni, and Pauwels (2013) warned that "pushing a single metric alone in disregard of the other aspects will result in unsustainable growth that punishes the brand in the long-run" (p. 294).

Purpose and Objectives

Agritourism is a growing sector of the agricultural industry that can help increase the viability of operations by diversifying income (Amanor-Boadu, 2013; Tweeten et al., 2008), but the operations' success depends on marketing (Schilling & Sullivan, 2014). A free marketing option for operations is using social media, which is how many agritourism visitors learn of agritourism operations (Murphy & Melstrom, 2017), but there is a lack of research on social media for agritourism (Cho et al., 2014; Zeng & Gerritzen, 2014). The purpose of this study was to describe Oklahoma agritourism operation Facebook posts. Facebook was chosen because it is the largest social media platform available, with more than two billion active users (Facebook Newsroom, n.d.). In the United States, almost 70% of adults use Facebook, including more than half of those users on the site daily (Perrin & Anderson, 2019). The objectives of this study were to

1. describe characteristics of original, community, and event posts;
2. describe relationships between post characteristics, types of post, and page likes;
3. compare characteristics of types of original posts;
4. describe overall characteristics of pages with different types of original posts;
5. describe characteristics of original posts with hashtags;
6. describe interaction among posts with media content; and
7. describe characteristics of event posts.

Methods

The Oklahoma Department of Agriculture, Food, and Forestry (ODAFF) listed 393 registered agritourism operations on its website as of June 22, 2018. Agritourism operations with an automatically generated Facebook page or with incomplete information on the ODAFF website were removed, making the final list to be 287 agritourism operations' Facebook pages. The ODAFF website divides agritourism operations into six geographic regions, which were used to create a proportionally stratified random sample. There was a final sample size of 174 agritourism operations, which is slightly above the minimum sample size of 165 required to achieve a 95% confidence interval and margin of error of +/- 5.0 (Krejcie & Morgan, 1970). The sample size by region was 48 for central (28%), 52 for northeast (30%), 20 for northwest (11%), 15 for south central (9%), 20 for southeast (11%), and 19 for southwest (11%).

A code sheet and a code book were developed for quantitative content analysis and reviewed by faculty members in tourism and agricultural communications as well as an ODAFF agritourism marketing specialist to help ensure validity of the instruments. To obtain interrater reliability between the two coders, preliminary coding was conducted on a sample of 30 Maine agritourism operations, with Cohen's kappa used to measure interrater reliability. The coders discussed definitions of variables with low Cohen's kappa scores (i.e., less than .4), and an additional 30 Maine agritourism operation Facebook pages were analyzed for the variables with low Cohen's kappa scores. After the second sample was analyzed, Cohen's kappa was again calculated, and variables not meeting a .4 Cohen's kappa score were removed from the study. A Cohen's kappa value of .4 was selected as the minimum score because it is the lowest score for a weak level of agreement (McHugh, 2012). A final Cohen's kappa score of .919 was achieved for the presence of original, community, and event posts, as well as the type of original post. Because some Facebook characteristics were infrequently observed, Cohen's kappa was not a suitable measurement, and percent agreement was calculated. A final mean percent agreement of 95% was achieved for original post and visitor post word count; number of shares, reactions, and media content (e.g., pictures, videos, and links); number of people interested and going/went to events and event description word count.

The quantitative content analysis was performed from August 14 to September 15, 2018. Posts created by the agritourism operation and the general public were recorded if they were created from June 1-30, 2018. Characteristics recorded included number of reactions, media content, word count, date created, number of comments, number of people tagged, and type of post. Additionally, characteristics of events set to be held from June 1-30, 2018, were recorded. Event characteristics included number of people interested in attending, length and content of the event's description, and number of community posts created on the event's page. All community posts created on those events' pages were recorded, regardless of whether they occurred outside of the June 1-30, 2018, timeframe. The number of likes for the pages was also recorded.

The month-long collection period was intended to account for posting fluctuations of individual Facebook pages (e.g., personal life events of page administrators) that may be present during shorter timeframes such as a week but would be less likely to limit page activity for an entire month. This is a limitation of the research because data collected were a snapshot of current Facebook marketing goals as opposed to showing longer-term trends. This timeframe was also a limitation because some types of agritourism operations, such as u-pick berry operations, were experiencing peak farm activity in June, whereas other types of agritourism operations such as pumpkin patches and hunting operations may have been less active on Facebook due to the seasonality of their operations.

A variety of posts can be created on an agritourism Facebook page. Community posts are defined in this study as posts created by the general public in the “Community” area of the agritourism Facebook page. Community posts were not further categorized by type, unlike original posts, which were.

Original posts were those created by the agritourism operation for the Facebook page. Original posts were categorized into seven types. Traditional were posts created by simply typing into the posting area on the page’s timeline but could have additional media, such as pictures, videos, and links. Updated pictures were posts generated automatically on a page’s timeline when a profile picture or cover photo were updated. Added pictures were posts generated automatically on a page’s timeline when photos were added to an album. Event posts were posts generated automatically on a page’s timeline when an event was created. Live posts were created by uploading a live video. Shared posts were posts originally made by another page that had been shared by the page administrator to appear on the agritourism Facebook page. “Other” was a broad description for all posts that did not fit into these categories, such as updated business hours. Additionally, posts could be formatted to have graphic text, in which text was converted to an artistic font with a colored background.

Following data collection, recorded data were aggregated and analyzed using SPSS software. Frequency was assessed for Objectives 1, 4, 5, and 7. Mean, minimum, maximum, median, quartiles, and standard deviation were assessed for Objectives 1, 3, 4, 5, 6, and 7. Bivariate correlation was assessed for Objectives 2 and 4. Pearson’s r correlation was used, with a “weak” correlation defined as $.1 \leq r < .3$, a “moderate” correlation as $.3 \leq r < .5$ and a “strong correlation as $r \geq .5$ (Cohen, 1988).

Results

RO 1: Describe Characteristics of Original, Community, and Event Posts

Among the 174 agritourism operations, there were 1,623 original posts, 184 community posts, and 151 event posts, as shown in Table 1. Fifty-nine percent of original posts were shared at least once, with a median of 3 shares per post. Thirty-four percent of community posts were shared at least once, with a median of 4 shares per post. Twenty-one percent of event posts were shared at least once, with a median of 3 shares per event post shared at least once. Forty-nine percent of original posts had at least one comment, compared to 55% of community posts, and 44% of event posts with at least one comment. Original ($Mdn. = 24$) and community posts ($Mdn. = 25$) had a higher median word count than event posts ($Mdn. = 14$).

RO 2: Describe Relationships between Post Characteristics, Types of Post, and Page Likes

Table 2 shows relationships between post content characteristics (i.e., word count, media content, and people tagged in posts) and post interactions (i.e., comments, shares, reactions, and people tagged in comments) for community posts, as well as page likes. When comparing original, community, and event posts, only the interactions with community posts had a statistically significant relationship with page likes. There were small relationships between word count and post interactions for original and event posts. Media content only had statistically significant relationships with shares and reactions of event posts. Post interaction characteristics tended to have strong relationships with one another. For example, community post reactions and shares had a relationship of $r = .948$, and original post comments and reactions had a relationship of $r = .800$. In general, tagging people in posts did not have a statistically significant relationship with interactions, but tagging people in the comments had strong statistically significant relationships with all interactions except event shares and event reactions.

Table 1
 Characteristics of Original, Community, and Event Posts

	<i>Min.</i>	<i>Q1</i>	<i>Mdn.</i>	<i>Q3</i>	<i>Max.</i>	<i>M (SD)</i>
Original posts (<i>n</i> = 1,623)						
Word count (<i>n</i> = 1,376)	1.0	12.0	24.0	45.0	506.0	34.5 (36.5)
Reactions (<i>n</i> = 1,566)	1.0	5.0	11.0	25.0	869.9	22.3 (44.4)
Total comments (<i>n</i> = 790)	1.0	1.0	3.0	7.0	423.0	7.0 (19.4)
Share (<i>n</i> = 958)	1.0	1.0	3.0	6.0	257.0	5.8 (14.2)
Comment tags (<i>n</i> = 325)	1.0	1.0	2.0	4.0	93.0	4.7 (10.4)
Media content (<i>n</i> = 1,416)	1.0	1.0	1.0	2.0	146.0	2.6 (7.1)
Operation comments (<i>n</i> = 330)	1.0	1.0	1.0	3.0	17.0	2.2 (2.2)
Post tags (<i>n</i> = 90)	1.0	1.0	1.0	2.0	19.0	1.5 (2.0)
Community posts (<i>n</i> = 184)						
Reactions (<i>n</i> = 133)	1.0	2.0	8.0	27.0	2,207.0	61.3 (224.4)
Word count (<i>n</i> = 175)	1.0	11.0	25.0	52.0	1,133.0	49.1 (100.8)
Share (<i>n</i> = 62)	1.0	1.0	4.0	13.3	643.0	22.8 (84.1)
Comment tags (<i>n</i> = 28)	1.0	1.0	2.0	4.0	51.0	4.6 (9.6)
Total comments (<i>n</i> = 101)	1.0	1.0	3.0	6.0	100.0	7.2 (15.0)
Post tags (<i>n</i> = 91)	1.0	1.0	2.0	4.0	47.0	3.3 (5.5)
Media content (<i>n</i> = 133)	1.0	1.0	1.0	3.0	43.0	3.3 (6.0)
Operation comments (<i>n</i> = 39)	1.0	1.0	1.0	2.0	4.0	1.6 (0.8)
Event posts (<i>n</i> = 151)						
Word count (<i>n</i> = 148)	1.0	7.25	14.0	29.0	158.0	22.9 (26.1)
Reactions (<i>n</i> = 108)	1.0	1.25	5.0	8.0	28.0	5.5 (5.1)
Share (<i>n</i> = 32)	1.0	1.0	2.5	6.5	18.0	4.5 (4.9)
Total comments (<i>n</i> = 66)	1.0	1.0	2.0	3.0	14.0	2.6 (2.3)
Comment tags (<i>n</i> = 9)	1.0	1.0	2.0	3.0	4.0	2.0 (1.2)
Post tags (<i>n</i> = 15)	1.0	1.0	1.0	2.0	3.0	1.5 (0.8)
Operation comments (<i>n</i> = 27)	1.0	1.0	1.0	2.0	4.0	1.4 (0.8)
Media content (<i>n</i> = 56)	1.0	1.0	1.0	1.0	5.0	1.4 (0.9)

^aProportion of total number of each type of post (original, community & event) with that characteristic.

Table 2
Relationship of Post Characteristics and Public Interaction

	Page likes	Word count	Media content	Shares	Reactions	Comments		People Tagged	
						Total	Operation	Comment	Post
Original									
Comment	.118	.134*	-.002	.782*	.800*	-	.385*	.830*	-.004
Share	.111	.121*	.009	-	.825*	.782*	.223*	.675*	.001
Reaction	.108	.160*	.022	.825*	-	.800*	.316*	.720*	-.002
Community									
Comment	.450*	.115	.072	.716*	.758*	-	.209*	.718*	.200*
Share	.661*	.030	-.009	-	.948*	.716*	.312*	.917*	.085
Reaction	.779*	.068	.020	.948*	-	.758*	.239*	.849*	.105
Event									
Comment	-.099	.133	.031	.317*	.237*	-	.731*	.509*	-.081
Share	-.013	.251*	.217*	-	.572*	.317*	.235*	.258*	.273*
Reaction	.140	.203*	.359*	.572*	-	.237*	.119	.153	.088

* $p < .05$

RO 3: Compare Characteristics of Types of Original Posts

When comparing types of original posts, traditional posts were the most frequent type of post ($n = 1,186$, 73% of original posts). Live videos, although comprising only 2% of original posts, had the highest median number of shares ($Mdn. = 2.0$), reactions ($Mdn. = 15.0$), and comments ($Mdn. = 3.0$), as shown in Table 3. When comparing maximum values, traditional posts had the highest maximum values. Traditional posts had a maximum of 869 reactions, 423 comments, and 257 shares.

Table 3

Characteristics of Types of Original Posts

Characteristic	<i>Min.</i>	<i>Q1</i>	<i>Mdn.</i>	<i>Q3</i>	<i>Max.</i>	<i>M (SD)</i>
Traditional ($n = 1,186$)						
Word count	0.0	12.0	24.0	44.0	334.0	34.0 (35.1)
Reactions	0.0	6.0	12.0	27.0	869.0	24.3 (49.7)
Total comments	0.0	0.0	1.0	4.0	423.0	3.9 (16.1)
Shares	0.0	0.0	1.0	4.0	257.0	3.9 (12.9)
Media content	0.0	1.0	1.0	2.0	27.0	1.9 (2.7)
Shared posts ($n = 215$)						
Reactions	0.0	3.0	7.0	18.0	123.0	14.5 (19.0)
Word count	0.0	0.0	3.0	13.0	80.0	9.5 (14.6)
Shares	0.0	0.0	1.0	3.0	36.0	3.3 (5.9)
Media content	0.0	1.0	1.0	1.0	37.0	2.1 (4.5)
Total comments	0.0	0.0	0.0	1.0	20.0	1.4 (2.9)
Event-related posts ($n = 98$)						
Word count	0.0	6.0	27.5	59.0	506.0	42.3 (60.6)
Reactions	0.0	2.0	4.0	8.25	153.0	8.8 (18.2)
Total comments	0.0	0.0	0.0	1.0	17.0	1.2 (2.9)
Media content	0.0	1.0	1.0	1.0	1.0	1.0 (1.1)
Shares	0.0	0.0	0.0	0.0	4.0	0.1 (0.5)
Updated profile/cover pic ($n = 41$)						
Reactions	0.0	3.5	8.0	26.5	78.0	16.6 (18.9)
Word count	0.0	0.0	0.0	0.0	106.0	2.6 (16.6)
Total comments	0.0	0.0	0.0	1.5	10.0	1.4 (2.7)
Media content	0.0	1.0	1.0	1.0	3.0	1.0 (0.4)
Shares	0.0	0.0	0.0	1.0	15.0	1.0 (2.5)
Live videos ($n = 37$)						
Reactions	3.0	10.0	15.0	22.0	94.0	19.3 (17.4)
Word count	0.0	0.0	4.0	11.0	55.0	9.8 (15.2)
Total comments	0.0	1.0	3.0	6.0	47.0	6.2 (9.4)
Shares	0.0	0.5	2.0	4.0	17.0	2.8 (3.5)
Media content	1.0	1.0	1.0	1.0	7.0	1.2 (1.0)
Added pictures ($n = 36$)						
Media content	1.0	1.0	5.0	31.5	146.0	21.5 (36.2)
Reactions	11.0	4.0	9.5	19.75	74.0	15.7 (17.3)
Word count	0.0	0.0	7.5	20.75	55.0	12.1 (15.1)
Total comments	0.0	0.0	1.0	2.75	11.0	2.1 (3.0)

Characteristic	Min.	Q1	Mdn.	Q3	Max.	M (SD)
Shares	0.0	0.0	1.0	2.75	11.0	1.8 (2.7)
Other ($n = 10$)						
Reactions	1.0	2.0	2.0	14.75	38.0	9.4 (12.3)
Word count	0.0	0.0	0.0	4.5	45.0	6.3 (14.7)
Total comments	0.0	0.0	0.0	5.75	29.0	5.1 (10.5)
Shares	0.0	0.0	0.0	2.25	10.0	1.8 (3.4)
Media content	1.0	1.0	1.0	1.0	4.0	1.3 (0.9)

Note. Values based on all posts, not only posts with these characteristics, as other tables in manuscript present.

RO 4: Describe Overall Characteristics of Pages with Different Types of Original Posts

Pages with at least one live video ($n = 17$, 14% of pages with at least one original post) had a mean of 32.1 total posts ($SD = 21.2$), and pages with at least one post about creating an event ($n = 30$, 25% of pages with at least one original post) had a mean of 29.1 total posts ($SD = 24.1$). Pages with one post categorized as “other” ($n = 9$, 8% of pages with at least one original post) had a mean of 21.9 total posts ($SD = 21.5$), and pages with at least one shared post ($n = 55$, 46% of pages with at least one original post) had a mean of 19.2 total posts ($SD = 21.4$). Pages with at least one post about adding pictures ($n = 15$, 13% of pages with at least one original post) had a mean of 16.1 total posts ($SD = 17.2$), and pages with at least one updated picture post ($n = 23$, 19% of pages with at least one original post) had a mean of 16.7 total posts ($SD = 18.2$). Pages with at least one traditional post ($n = 113$, 94% of pages with at least one original post) had a mean of 14.2 total posts ($SD = 17.0$).

When comparing the types of original posts, only the number of traditional posts had a moderate correlation with page likes ($r = .407$), as shown in Table 4. The total number of original posts had only a moderate correlation to page likes ($r = .293$). The average number of reactions a page received per original post did not have a relationship with the total number of original posts or the type of original post.

Table 4

Relationship between Type of Original Post and Page Likes

	Page likes ^a
Total original posts ^a	.293*
Traditional	.407*
Updated picture	-.099
Added picture	-.076
Live	.036
Other	-.030
Shared	-.009
Event posts	.002

^aAmong pages with at least one original post, regardless of category of original post.

* $p < .05$ level.

RO 5: Describe Characteristics of Original Posts with Hashtags

Among original posts created by agritourism operations, 25 agritourism operation Facebook pages used a hashtag in at least one original post. A total of 191 posts with hashtags were created by these 25 agritourism operations. The 25 pages with at least one post with a hashtag had a mean of 7.7 posts ($SD = 9.3$) with hashtags. A mean of 3.6 hashtags ($SD = 3.1$) were used in each post, and a mean of 11.6 different hashtag wordings appeared per page. Fourteen pages used at least one hashtag more than once, while 11 pages did not repeat use of any hashtags. Pages that repeated a hashtag used their most frequent hashtag a mean of 8.5 times per page ($SD = 10.1$), and it appeared in a mean of 30% of each page's posts ($SD = 20\%$). Eight common hashtags were used across at least two pages.

Posts with at least one hashtag had the same median number of comments ($Mdn. = 3.0$) and shares ($Mdn. = 3.0$) as posts without hashtags, as shown in Table 5. Posts with hashtags had a higher median number of reactions ($Mdn. = 14.0$) than posts without hashtags ($Mdn. = 11.0$). Posts without hashtags had a higher median number of people tagged in comments ($Mdn. = 2.0$) than posts without hashtags ($Mdn. = 1.0$).

Table 5

Characteristics of Original Posts with Hashtags

	<i>Min.</i>	<i>Q1</i>	<i>Mdn.</i>	<i>Q3</i>	<i>Max.</i>	<i>M (SD)</i>
Hashtag present ($n = 191$)						
Word count	1.0	1.0	12.0	27.0	44.25	33.8 (27.0)
Reactions	1.0	8.0	14.0	27.0	869.0	28.3 (70.3)
Comments	1.0	2.0	3.0	6.0	423.0	10.5 (45.0)
Comment tags	1.0	1.0	1.0	2.75	93.0	7.6 (20.4)
Share	1.0	1.0	3.0	6.0	235.0	7.3 (22.4)
Media content	1.0	1.0	1.0	2.0	11.0	2.0 (1.9)
Post tags	1.0	1.0	1.0	2.0	3.0	1.4 (0.7)
Hashtag absent ($n = 1,432$)						
Word count	1.0	12.0	24.0	45.0	506.0	34.6 (37.5)
Reactions	1.0	5.0	11.0	25.0	835.0	21.5 (39.6)
Comments	1.0	1.0	3.0	7.0	173.0	6.5 (12.3)
Share	1.0	1.0	3.0	6.0	257.0	5.6 (12.7)
Comment tags	1.0	1.0	2.0	5.0	84.0	4.3 (8.1)
Media content	1.0	1.0	1.0	2.0	146.0	2.7 (7.6)
Post tags	1.0	1.0	1.0	2.0	19.0	1.6 (2.3)

RO 6: Describe Interaction among Posts with Media Content

Original posts created by the agritourism operation most frequently had pictures as added media content, followed by graphics, as shown in Table 6. Posts with videos had the highest median number of reactions ($Mdn. = 15$) and shares ($Mdn. = 2$). Posts with pictures, videos, and media content categorized as "other" had the same median number of comments ($Mdn. = 1$). Posts with pictures had the highest maximum values for reactions ($Max. = 869$), comments ($Max. = 423$), and shares ($Max. = 257$).

Table 6
Characteristics of Original Posts with Different Media Content

	<i>Min.</i>	<i>Q1</i>	<i>Mdn.</i>	<i>Q3</i>	<i>Max.</i>	<i>M (SD)</i>
Picture (<i>n</i> = 1,014)						
Reactions	0.0	7.0	14.0	30.0	869.0	26.5 (52.8)
Comments	0.0	0.0	1.0	4.0	423.0	4.1 (17.3)
Shares	0.0	0.0	1.0	3.0	257.0	3.6 (13.3)
Video (<i>n</i> = 105)						
Reactions	0.0	8.0	15.0	26.5	100.0	21.3 (20.0)
Shares	0.0	0.0	2.0	5.5	32.0	4.2 (5.8)
Comments	0.0	0.0	1.0	4.0	47.0	3.5 (6.5)
Link (<i>n</i> = 142)						
Reactions	0.0	3.0	5.0	13.0	686.0	17.9 (65.0)
Shares	0.0	0.0	1.0	3.25	257.0	4.9 (22.4)
Comments	0.0	0.0	0.0	1.25	164.0	2.9 (15.6)
Graphic (<i>n</i> = 206)						
Reactions	0.0	3.0	6.0	12.0	153.0	11.2 (18.3)
Shares	0.0	0.0	1.0	4.0	86.0	4.1 (9.0)
Comments	0.0	0.0	0.0	1.0	21.0	1.4 (3.2)
Other (<i>n</i> = 16)						
Reactions	2.0	7.0	11.0	17.75	37.0	12.75 (8.7)
Shares	0.0	0.0	1.0	2.75	6.0	1.6 (1.9)
Comments	0.0	0.0	1.0	2.0	5.0	1.4 (1.6)
None (<i>n</i> = 205)						
Reactions	0.0	3.0	6.0	14.5	145.0	13.4 (21.1)
Comments	0.0	0.0	0.0	3.0	33.0	2.8 (5.3)
Shares	0.0	0.0	0.0	2.0	18.0	1.8 (3.3)

RO 7: Describe Characteristics of Event Posts

Posts created by the agritourism operation had a higher median word count (*Mdn.* = 22.0) than posts created by the general public (*Mdn.* = 12.0), as shown in Table 7. Posts created by the agritourism operation also had more comments (*Mdn.* = 4.0) than posts created by the general public (*Mdn.* = 2.0), more shares (*Mdn.* = 4.0) than posts created by the general public (*Mdn.* = 2.0), and more reactions (*Mdn.* = 6.0) than posts created by the general public (*Mdn.* = 3.0).

Among posts created by the agritourism operation (*n* = 29), 21 posts (72%) were made before the event, eight posts (28%) were made on the day of the event, and none (0%) were made after the event. Among posts created by a Facebook profile other than the agritourism operation (*n* = 122), 99 posts (81%) were made before the event, 17 posts (14%) were made on the day of the event, and six posts (5%) were made after the event.

Table 7

Characteristics of Event Posts Made by the General Public & Agritourism Operation

	<i>Min.</i>	<i>Q1</i>	<i>Mdn.</i>	<i>Q3</i>	<i>Max.</i>	<i>M (SD)</i>
Agritourism operator (<i>n</i> = 26)						
Word count	3.0	12.5	22.0	53.0	107.0	36.6 (30.1)
Reactions	1.0	4.0	6.0	11.0	28.0	8.8 (7.1)
Share	1.0	1.0	4.0	7.0	18.0	5.5 (5.6)
Comments	1.0	2.0	3.5	5.0	14.0	4.4 (3.7)
Comment tags	1.0	1.25	2.0	3.5	4.0	2.3 (1.3)
Media content	1.0	1.0	1.0	2.0	2.0	1.3 (0.5)
Post tags	1.0	1.0	1.0	1.0	1.0	1.0 (n/a)
General public (<i>n</i> = 125)						
Word count	1.0	6.0	12.0	24.0	158.0	20.1 (24.4)
Reactions	1.0	1.0	3.0	7.0	16.0	4.4 (3.6)
Share	1.0	1.0	2.0	3.0	13.0	3.3 (3.9)
Comments	1.0	1.0	2.0	2.0	6.0	2.1 (1.4)
Comment tags	1.0	1.0	1.0	3.0	4.0	1.8 (1.3)
Post tags	1.0	1.0	1.0	2.25	3.0	1.6 (0.9)
Media content	1.0	1.0	1.0	1.0	5.0	1.4 (1.0)

Discussion/Conclusions

When comparing original posts made by agritourism operations and community posts made by the general public, the frequency of original posts to community posts was an almost 9-to-1 ratio. Original posts and community posts were similar in total number of reactions, comments, and shares. However, the number of community posts had a stronger relationship to overall page likes than the number of original posts. Past tourism marketing research has suggested user-generated content is valuable (Marder et al., 2018; Zavattaro et al., 2015; Zeng & Gerritsen, 2014), so fostering electronic word-of-mouth seems valuable given the link between community posts and overall page likes, though this could be a chicken-and-egg scenario to determine causality without further research.

While original and community posts were similar in word count, original posts had more media content than community posts. Additionally, the number of the operations' comments among original and community posts was similar. For both original and community posts, the proportion of total comments to the operations' comments was approximately 3:1. However, in comparing the maximum number of total comments to the maximum number of operation comments, both original and community posts had total comments in a ratio of approximately 20:1 for both original and community posts. This suggests as posts garner attention, the agritourism operations may not keep up with post comments, and the conversations are driven by users.

Excellence Theory considers both whether communication is two-way and if it benefits the receiver (Waters & Williams, 2011). Two models of public relations are represented, one by the number of posts and the other by the interaction with those posts. The large proportion of original posts to community posts suggests communication similar to the model of public information, characterized by one-way communication valuable to the public. However, approximately half of original and community posts had comments, and the ratio of operation to total comments suggests agritourism operations actively replied to comments. These characteristics align more with the two-way model of communication (Cho et al., 2014). If operations can exhibit aspects of more

than one model of public relations seemingly at once, this could be a unique facet of social media for public relations.

There was no statistically significant relationship between the number of original post reactions, comments, or shares with overall page likes. Furthermore, the number of overall page likes was largely disproportionate to individual post reactions, with the median page likes and median post reactions at a ratio of 121:1. This suggests while a page may have a large number of page likes, a small number of people were actually seeing and interacting with posts made by the agritourism operation. The majority of social media activity may be performed by a small number of individuals (Hampton et al., 2012), and agritourism operators should be aware only a small proportion of their audience may be viewing content created by the page. In other words, page likes do not equal engagement, which is important if operations are trying to translate Facebook engagement into agritourism visitors.

This study counters several past recommendations for posting. While replying to comments is a commonly recommended social media best practice, the number of operation comments had only a moderate relationship to post reactions, comments, and shares. Similarly, while tagging friends can show endorsement of a post and build community (Oeldorf-Hirsch & Sundar, 2015), there was no relationship between the number of people tagged in the original posts and the number of post interactions. That said, there were strong statistically significant relationships people tagged in comments and the number of reactions, which indicates value of electronic word-of-mouth for fostering engagement. Although Pino et al. (2018) found interaction with Facebook posts decreased with message length, this study found no relationship between post reactions and word count or number of media content.

Hashtags make a post searchable by topic (Sevin, 2013; Uşaklı et al., 2017), but in this study posts with and without hashtags had similar interactions. While no difference was found, this needed to be explored given the potential for hashtags to broaden the reach of posts to new audiences. Further exploration of hashtags is needed to determine their role in agritourism promotion, but in this instance, they did not appear to broaden the audience for posts.

There were noticeable differences in the frequency of original post types. Nearly three-quarters of original posts were categorized as “traditional,” and such low frequencies of other post categories may have resulted in the lack of correlations between the frequency of post type and overall page likes. Shared posts were the second-most frequent type of original post, and although this type of post was lower in reactions and comments, the number of shares per shared post was similar to other types of original post. Research has not been found to date comparing these types of posts. Future research should consider the type of information in shared posts, as it may have especially far reach and yet not be related to agritourism.

Excellence Theory considers whether communication is valuable to the receiver (Waters & Williams, 2011), and these findings suggest this should be considered at both the page- and post-level. Traditional original posts were most frequently observed and were the only type of original post with a relationship to overall page likes. In contrast, live videos were infrequently observed but had the highest median comments, reactions, and shares. Pages with a large number of traditional posts may represent the public information model, as the public appears to value the page’s information yet does not engage in a large amount of two-way conversation. Pages with a large number of live videos exhibit aspects of two-way communication by generating more public interaction with the posts. While social media can foster interactions, there is no guarantee the interactions happen. Some types of content, such as live videos, appear to foster interaction more readily than others.

Social media provides advantages over traditional websites in event promotion (Lee et al., 2012) and can be less expensive than paid advertising or traditional public relations efforts for event promotions (Moise & Crueru, 2014). When comparing event posts made by the agritourism operations and general public, posts made by the agritourism operator had more interaction. The agritourism operations created more posts on the day of the event compared to the general public, and it is possible these were used to provide last-minute updates on the event. Pino et al. (2018) found Facebook users were more likely to like and share posts about ongoing events, and this may suggest why agritourism operation event posts had higher interaction than event posts made by the general public.

These two types of event posts may also suggest why quantity of information in posts (i.e., word count and frequency of media content) had the strongest relationship with event post interactions (i.e., reactions, comments, and shares) compared to original and community posts. Simple questions may have a smaller intended audience and therefore elicit a lower response than longer posts created by the agritourism operation to convey information about a post. In contrast, event posts had the weakest relationship among types of interactions (i.e., shares with comments or shares with reactions), possibly due to the specialized information of event posts. For example, a question may elicit a large number of comments with few reactions, while updates on event information may elicit many shares to quickly spread new event information with few additional comments.

The goal of this research was to provide an initial look at what is happening with agritourism operations' Facebook pages in Oklahoma. Social media channels offer the opportunity for operations to promote themselves without the barriers of traditional media outlets, but this is an underexplored area. With these results, marketing practitioners seeking to help agritourism operations have more information about what is actually happening, as opposed to anecdotal evidence, including what types of posts have higher rates of engagement with Facebook users.

Recommendations

Agritourism operators should be aware quality appears to be more important than quantity given the lack of relationships between post characteristics and the public's interactions with those posts. Additionally, while replying to comments on posts does have a moderate relationship to the reactions, comments, and shares a post receives, it does not have as strong of a relationship as post interaction from the public. Therefore, an agritourism operator should be diligent in responding to Facebook activity and yet primarily strive to create Facebook content to which the public seeks to respond.

Agritourism operators should consider creating a variety of content, such as live videos, that were infrequent among agritourism operations. While there was not a demonstrated relationship between variety of original posts and page likes, different types of original posts did have noticeable differences in types of post interaction (i.e., reactions, comments, and shares), and this could build a personality of the Facebook page that may distinguish them from other types of agritourism operations.

Additionally, agritourism operators should consider distinguishing between Facebook content that increases overall page likes and content that generates a large volume of post interaction. It is possible agritourism operators are creating an echo chamber where post content may not reach the larger audience who has liked the agritourism Facebook page. Therefore, agritourism operators should consider how types of posts may increase overall page likes but not necessarily post reactions, and vice versa. To date, past research distinguishing this nuance within the context of Excellence Theory has not been found. However, as social media becomes

increasingly important in public relations, more work is needed to develop useful metrics to ensure Excellence Theory's relevance in future communications research.

Marketing practitioners, such as those in Extension and state departments of agriculture, who advise agritourism operations should identify differences in Facebook activity between types of agritourism operations to provide specific advice. The large standard deviations among post characteristics suggest that a spectrum of pages exist, indicating differing needs between agritourism operations. Practitioners should provide training in using a variety of posts given the general homogeneity of posts.

Marketing practitioners may serve as a more neutral source to request agritourism visitors to create community posts about their experiences to agritourism operations. Marketing practitioners could pool this material to build the reputation of an entire rural region, developing a brand that benefits all of the local agritourism operations. Finally, marketing practitioners may consider creating shareable Facebook posts. Posts created by a page other than the agritourism operation are the second most common type of post on agritourism Facebook pages, and these posts in turn are frequently shared by the general public. These posts therefore could have increase reach and help provide pre-existing Facebook content for agritourism operations with limited resources to create their own content.

This research serves as an initial step for describing what is happening with agritourism operations' Facebook activity in Oklahoma, but there were limitations to the research and further areas to expand exploration. This research evaluated posts made in June to avoid major holidays, but future research should assess a longer timeframe to assess if there are seasonal ebbs and flows in posting and public engagement, especially between types of agritourism operations. Additionally, this research sampled based on pages. Some types of posts, such as live videos, were infrequently observed on Facebook pages. Therefore, these types of posts were vastly disproportionate to other types of posts, and future research should purposively sample based on types of posts to gain a better understanding of lesser-used post types, like live videos. Future research should evaluate the types of information conveyed in Facebook posts, especially relating the type of information with post interactions. Additional research could also address other social media sites agritourism operations use, such as Twitter, YouTube, Pinterest, and Yelp.

While this study evaluated Oklahoma agritourism operations, future research should consider a geographic area outside of Oklahoma to better represent the diverse American agritourism industry. Additionally, this research looked at what the operators were doing but not why. Using interviews and/or focus groups, the perspectives of agritourism operators could provide practical information such as amount of time spent marketing, return on investments, and degree of comfort in marketing. Finally, while this study described factors such as number of people tagged and number of Facebook profiles creating posts, future research on social network analysis could describe the reach and connection of agritourism social media.

In considering the context of Excellence Theory, future research should clarify nuances in measurements of social media, especially in relation to whether overall page activity or individual post activity is most important. Additionally, while Excellence Theory considers whether information is valuable to the general public, the measurement of value within the context of social media has not been clearly established from previous literature.

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