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Voices “Herd”: A Social and Sentiment Analysis of Consumers Perceptions of Fair Oaks Farms

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THESIS

A thesis submitted in partial fulfillment of the
requirements for the degree of Master of Science in the Community and Leadership Development in the College of Agriculture, Food and Environment
at the University of Kentucky

By

Jacelyn De’Nae Nesmith

Lexington, Kentucky

Director: Dr. Rebekah Epps, Associate Professor of Agricultural Education

Lexington, Kentucky

2020

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ABSTRACT OF THESIS

Voices "Herd": A Social and Sentiment Analysis of Consumers Perceptions of

Fair Oaks Farms

Americans are searching for more information than just cost and quality of their food. Today, consumers are searching for information regarding the production practices and how animals are treated during the process. As consumers do not always have a first-hand source for this information, they are often referring to social media to have their questions answered. Social media has the reputation to negatively influence public perceptions of the agricultural industry. An example of an organization experiencing the consequences of social media influencing public opinion is Fair Oaks Farms. In 2019, an undercover animal rights activist group made accusations of poor animal welfare at Fair Oaks Farms. The purpose of this study is to determine how online media impacted Twitter users' opinion of Fair Oaks Farms and the welfare of their animals during the video mission of ARM Investigators. Utilizing a convergent mixed methods approach, the researcher conducted a social and sentiment analysis to uncover the impact and attitudes towards Fair Oaks Farms upon the release of these videos. Social Studio, a social listening tool, allowed the researcher to collect tweets directly related to this phenomenon for the analysis. This study determined the videos about Fair Oaks Farms had a negative influence on Twitter users' perceptions of the farm and the industry. Additionally, this study suggested the impact the media has on public opinion and disseminating information online.

KEYWORDS: Fair Oaks Farms, Social listening tools, Agricultural Communications, Agricultural Education, Public opinion, Social Media

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(Name of Student)

03/18/2020

Date

Voices “Herd”: A Social and Sentiment Analysis of Consumers Perceptions of

Fair Oaks Farms

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DEDICATION

To the “stewards” of the land, those caring for animals, and those working to put food on tables across America. Every farmer deserves to be thanked for providing sustenance to America and for setting an incredible example for future generations.

Deuteronomy 28:12

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My time as a Master's student at the University of Kentucky has reminded me to never doubt yourself in reaching the impossible. To reflect on how far I have come with the help of so many extraordinary people just makes me feel immensely blessed.

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CHAPTER 1. INTRODUCTION

Background of the Problem

There is a growing interest in agricultural production practices, including how food is grown, and/or processed, and particularly the treatment of livestock animals. Current modern livestock practices allow for increased efficiencies that facilitate reasonable food costs; however, today's animal production practices have become increasingly contentious. With only 876,300 of the U.S. population employed in agriculture (Bureau of Labor Statistics, 2018), production agriculturists are using other outlets to inform consumers about the agricultural industry.

Today's agricultural practices often leave consumers searching for information regarding food production and the processes. Despite the fact America's agricultural industry has been credited with providing safe, spacious, and exceptional care for its livestock; the volume and efficiency of its production methods has raised ethical questions related to the care of livestock (Specht & Rutherford, 2013). A peak in interest of this topic leads to the exploration of interest groups; social media conversations; articles from a variety of government, industry, and university sources; or visits to agritourism locations for hands-on experiences (Cummins, et al., 2015). Additionally, consumers are utilizing animal-welfare interest groups and social media to obtain information about animal welfare (Haller, et al., 2019).

According to the American Veterinary Medical Association (2019), animal welfare is described as:

> How an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behavior, and if it is not suffering from unpleasant states such as pain, fear, and distress. Good

> animal welfare requires disease prevention and veterinary treatment, appropriate shelter, management, nutrition, humane handling and humane slaughter. Animal welfare refers to the state of the animal; the treatment that an animal receives is covered by other terms such as animal care, animal husbandry, and humane treatment. Protecting an animal's welfare means providing for its physical and mental needs (para. #1).

Animal welfare has been no stranger to conversations among Americans over the last decade. Advocates for animal welfare against agricultural practices have taken drastic measures to showcase their view of the agricultural industry. Consumers' beliefs of animal welfare practices focus on being responsible for proper animal treatment, stopping animal suffrage, and ensuring farmers take care of their animals (Tucker, 2018). According to Specht and Rutherford (2013) due to the knowledge gap between agriculturalists and consumers not involved in the food and fiber industry, attention must be paid to visual representation of agriculture in the media.

Advocates Against Agricultural Practices

Advocates against agricultural practices have united with the objective to ensure animals, both within and outside of agriculture, are well taken care of and treated correctly. Although there are thousands of these groups within the United States, some of the largest, active, and well-known organizations include The Humane Society of the United States (HSUS), People for the Ethical Treatment of Animal (PETA), and Animal Recovery Mission (ARM). Each of these groups have a different mission and perform advocacy efforts in different ways.

As a global affiliate, HSUS provides direct care, rescue, and services for animals in crisis in the United States. Its mission "Together with millions of supporters, we take on puppy mills, factory farms, trophy hunts, animal testing, and other cruel industries." (The

Humane Society of the United States [HSUS], 2019, para. 1). Through these advocacy efforts, HSUS entices public opinion on animal cruelty through awareness campaigns. These awareness campaigns have four main goals: "1) Provide direct care, rescue, and services for animals in crisis, 2) Pass local, state and federal laws to protect animals, 3) Make sure existing laws are properly enforced, and 4) Help the biggest corporations reform their animal welfare policies" (HSUS, 2019, para. 3).

PETA was founded in 1980, and is dedicated to establishing and defending the rights of animals. This organization operates under the principle of "animals are not ours to experiment on, eat, wear, use for entertainment or abuse in any other way" (People for the Ethical Treatment of Animals [PETA], 2019, para. 1). This international program seeks to educate policymakers and the public about animal abuse and promote the welfare of animals. According to PETA, the organization "focuses its attention on the four areas in which the largest numbers of animals suffer and the most intensely for the longest period of time: in laboratories, on factory farms, in the clothing trade, and in the entertainment industry" (2019, para. 3).

ARM is an investigative animal welfare organization developed in 2009. This organization prides themselves on being "…a carefully conducted as a direct-action organization," and as an organization that "… conduct[s] innovative investigative tactics to gather compelling evidence" (Animal Recovery Mission [ARM], 2019, para. 2). ARM collaborates with law enforcement, state attorneys, and protection agencies to open up cases or "operations" on different agricultural industries or companies to gather information and evidence of animal cruelty to broadcast on their websites and social media channels ensuring all those involved receive legal punishment.

Fair Oaks Farms

While groups such as PETA, HSUS, and ARM are disconnected from the agricultural practices, the claims from these organizations are often based on previous public perceptions. Therefore, the agricultural story is often not reflective of agricultural practices. In hopes of disputing activist's claims, agriculturalists have created opportunities for the public to experience agricultural practices firsthand. One of the many agriculturalist's groups telling their story, educating the public, and showcasing their facilities is Fair Oaks Farms.

Located right in the corn belt of Northwest Indiana, Fair Oaks Farms is the nation's leading agricultural attraction (Fair Oaks Farms, 2019a, para. 2). This dairy farm produces enough milk for more than 8 billion people each year (Fair Oaks Farms, 2019a). Fair Oaks consists of 11 self-sufficient dairy farms milking a total of 37,000 cows three times a day (Fair Oaks Farms, 2019d, 0:24). Within eight minutes, the cows are in the milking parlor, milked, and leaving the parlor. Not only has the farm perfected this process, but also the milk is from the cow onto the store's shelves within eighteen hours of the milking. In addition to milking 37,000 cows daily, an average of 500,000 visitors come to see the farm in action each year (Fair Oaks Farms, 2019d, 5:14).

Fair Oaks Farms is a prime example of agritourism. The McCloskey's, owners of Fair Oaks Farms, opened the doors to the public, providing the opportunity for consumers to directly communicate with the farmers to learn about modern farming practices. The family farmers of Fair Oaks Farms describe the farm mission as, "to welcome ALL to the table to have conversations about how we are going to affordably feed the world through sustainable, humane, modern agriculture" (Fair Oaks Farms, 2019b, para. 2).

In 2004, Mike and Sue McCloskey opened the doors to their farm with the mission to showcase practices, innovations, and technologies of their dairy farms. The McCloskey's are extremely proud of what they do and thought the best way to reach consumers was to open their farms to the public and be completely transparent about their operations. Sue McCloskey, co-founder of Fair Oaks Farms, describes their operation as "… a place where our guests can have all of their questions, all of their concerns answered with complete transparency. It's where they can make the connection between a farmer and the food in their refrigerator" (Fair Oaks Farm, 2019b, 3:44).

Since January 2004, the McCloskey's have watched their vibrant dairy farm expand to a full agritourism operation. Fair Oaks Farm discovered a need to not only educate the public about the dairy industry, but the entire agricultural industry. As of 2019, Fair Oaks Farms have added to their existing Dairy Adventure. The additions to the dairy farm now include a Pig Adventure, Crop Adventure, Mooville (an outdoor play area), an Orchard, Hotel, café and restaurant, gas/ convenience store and production of fresh farm products. In the upcoming years, the farm envisions adding pollinators, egg production, vertical farming, and aquaculture to utilize as educational tools and showcase modern agriculture to consumers.

While Fair Oaks Farms is primarily known as the number one agritourism site in the Midwest (Fair Oaks Farms, 2020), Fair Oaks Farms is currently an operating dairy farm. Milking 37,000 cows three times a day (Fair Oaks Farms, 2019d, 5:14). Of the milk produced on the farm, Fair Oaks Farms supplies a portion of their milk to Fairlife milk. Fairlife milk, a popular brand of ultra-filtered milk, launched in 2012 with a partnership with Coca Cola, which would distribute the products (Elejalde-Ruiz, 2019). Fairlife milk

prides themselves on making people better by "providing them with nourishment that better fits their needs and goals" (Fairlife, 2020) through milk-based products. In June 2019, Fair Oaks Farms was one of 30 farms supplying milk to Fairlife (Elejalde-Ruiz, 2019); therefore, Coca Cola additionally had a partnership with Fair Oaks Farms in 2019.

One of Fair Oaks Farms main goals when opening their doors to the public was to be transparent about their practices. However, in 2019 their operation was compromised when a member of an activist group unknowingly joined their team. This activist group accused the farm of poor animal practices, animal abuse, and showcased these accusations through online networks.

Operation Fairlife

From February 2019 to April 2019, Fair Oaks Farms hired a new milking technician to assist with the milking in the parlor during different shifts. The new technician was an undercover investigator for an animal-welfare organization, Animal Recovery Mission (ARM). During the investigators time of employment with Fair Oaks Farms, he utilized surveillance equipment to document his experiences at Fair Oaks Farms. These experiences included negative animal welfare acts such as animal neglect, animal abuse from three other employees, and substance abuse by Fair Oaks employees on the farm.

On April 19, 2019, Mike and Sue McCloskey released a YouTube video to reinforce their mission of an open dialogue between their farm and the general public. In this video, the McCloskey's discussed how it had been brought to their attention that a "group of employees had joined the Fair Oaks Farms with the intent of undercover videos and misrepresent what our practices and who we are about" (McCloskey, 0:45). Throughout this video, the owners of Fair Oaks Farms discuss the farms' mission, their

beliefs, the training of their employees, their affiliation with Farmers Assuring Responsible Management (FARM), and their partnership with third party organizations to ensure their employees are abiding by the animal-welfare guidelines provided by FARM. This video can be found at https://www.youtube.com/watch?v=uaXGKFW-5rA. The video concludes with the following statement, "we hope that as the videos come out we'll be addressing them and that you'll continue to support our work in providing transparency and great nutrition through dairy farms across the country" (Fair Oaks Farms, 2019b, 2:51).

Upon the completion of gathering footage and documenting this experience, ARM Investigators released a series of videos to embark on their mission titled: Operation Fairlife. On June 4, 2019 ARM released the first video. The video was released through YouTube and titled "The Biggest Undercover Dairy Investigation in History- Fair Oaks Farms and Coca Cola." This video primarily focused on calves being transported to veal farms, animal abuse and illegal drug abuse by employees in regard to the Fair Oaks Farm (ARM Investigators, 2019c). This video can be found at https://youtu.be/_quX1acHGks.

Following the release of the video on YouTube, ARM Investigators utilized additional social media networks to disseminate this information through their social media handle, ARM Investigators. ARM Investigators primarily used Twitter and Facebook to rapidly share this information. In fact, in conclusion of the first video, Richard Couto, founder of ARM, calls other advocates against agricultural practices wanting to make a difference to "go and make waves throughout the internet" (ARM Investigators, 2019, 3:49). Couto concluded the video with the statement "Fair Oaks Farm and FairLife Cooperation need to be stopped" (ARM Investigators, 2019, 3:48).

Almost instantly after ARM released the video, consumers began discussing the accusations and disseminating information at a rapid pace. Consumers utilize word-of-mouth, media outlets, and especially social media to communicate their outrages on the acts shown on Fair Oaks Farms. In addition to advocates against agricultural practices, pro agriculturalists (bloggers, industry personals, and farmers), and popular press began talking about the case against Fair Oaks Farms.

Without hesitation consumers, news outlets, popular press outlets, and social media accounts began posting, writing, and discussing the acts of Fair Oaks Farms revealed by the ARM Investigators videos. Local news stations including WGN News, IndyStar, and RTV 6 began broadcasting the details shared by ARM Investigators. In addition to being discussed locally, national news stations including Fox News, CBS, The New York Times, and CNBC began interviewing ARM Investigators and the public on their thoughts and opinions on the videos.

Alongside news outlets, social media platforms began an uproar with information, posts, tangents, and conversations about the Fair Oaks Farms animal abuse released by ARM Investigators. Twitter user, 'LeilaniMunter' (2019), shared ARM's video and tweets, "Then join me in telling @CocaCola and Fair Oaks Farms that this horrific animal abuse must end" (Munter, 2019). Individual social media users, news stations, journals, and activists began having conversations regarding the video on all social media platforms. One news station in Los Angeles tweeted "Activists hold protest against Coca-Cola after release of animal abuse video at Fair Oaks Farms" (Fox 11 Los Angeles, 2019). Not only did users begin to utilize social media posts about the incident, thousands of users

participated in the conversations by liking, sharing, commenting, and spreading this information at a rapid pace.

Founder of Fair Oaks Farms, Mike McCloskey, released an official statement regarding ARM Investigators video released on June 4, 2019 on Facebook. In the post McCloskey writes, "It is with a heavy heart that I prepare this statement today." (Fair Oaks Farms, 2019c). While McCloskey was made aware of the footage months ago, he was unsure what was and was not captured. In his post, he briefly discusses the five employees who were caught on camera abusing animals and states of the four of his employees, three had been terminated prior to being aware of the video.

McCloskey's Facebook posts states,

> Regardless, I am disgusted by and take full responsibility for the actions seen in the footage, as it goes against everything that we stand for in regard to responsible cow and comfort. The employees featured in the video exercised a complete and total disregard for the documented training that all employees go through and ensure the comfort, safety, and well-being of our animals. It is a shock and an eye-opener for us to discover that under our watch, we had employees show disregard for our animals, our processes and for the rule of the law (Fair Oaks Farms, 2019c).

In regard to the official statement on Facebook, the post received over 20 thousand comments and 30 thousand shares (2019c).

On June 4, 2019, the Indiana State Board of Animal Health (BOAH) was made aware of ARM's video release about Fair Oaks Farms. The video was brought to their attention through media, social media, and concerned citizens. Upon reviewing the video, BOAH officials reviewed compliance records and complaint logs for Fair Oaks Farm. This review revealed, "No reports of animal abuse or neglect have been filed with the agency since the

farms founding" (Elejalde-Ruiz, 2019, para. 20). The BOAH was directed to collaborate with local law enforcement regarding the next steps to take.

In addition to a local animal welfare organization releasing a statement, the United States Department of Agriculture (USDA) released a statement as well. Although consumers were attacking the USDA wanting action taken, the USDA authorities primarily regulate the treatment of animals in slaughter facilities. Therefore, as the USDA acts to prevent animal cruelty, the animals in the video released by ARM do not fall within their authority. While the USDA cannot take measures against this act, they state they have full confidence the state of Indiana and local authorities will take appropriate actions on this case (Cantrell, 2019). A USDA spokesperson released the following statement regarding this case:

> The actions depicted on the Animal Recovery Mission video are unacceptable. USDA has full confidence that Indiana state and local authorities will investigate this particular case take appropriate action.
> The cows shown in the video were not in federally inspected slaughter facilities and therefore not within the USDA's regulatory authority. However, any allegations of animal cruelty must be taken seriously and thoroughly investigated by the proper authorities to ensure all animals are treated with care and dignity… Policies for humane handling of animals consist of a combined effort of federal, state, and local authorities, as well as private industry. When animals fall within our authorities, USDA acts to prevent animal cruelty such as this. The animals depicted in this video do not fall within our authority (Cantrell, 2019, para. 25-29).

On June 5, 2019 protestors began to protest at Fair Oaks Farms as well as the ARM's meeting where the organization discussed their next actions in the Operation FairLife against Fair Oaks Farms. The Indiana Animal Rights Alliance had a group of approximately 75 people protest outside of the ARM meeting against Fair Oaks Farms. The group held signs with messages such as, "Fair Oaks Farms: The new symbol for animal

cruelty" and "If you're a calf, Fairlife is a bad life!" Some additional signs read "Partners in crime" with logos of Fair Oaks Farms, Fairlife and Coca-Cola among them (Mack, et al., 2019).

In addition to individuals protesting the accusations about Farm Oaks Farms, retailers also began boycotting and acting on these accusations. After the release of the video on June 4, 2019 several retailers including: Jewel-Osco, Tony's Fresh Market, Pete's Fresh Market, and Stack & Van Til pulled all Fairlife products from their selves (Elejalde-Ruiz, 2019). Coca Cola, distributer of Fairlife milk, began an investigation on all of Fairlife's distributers. Additionally, Fairlife milk immediately suspended all deliveries from Fair Oaks Farms (Elejalde-Ruiz, 2019).

While a large number of individuals, retailers, and organizations were against Fair Oaks Farms during this time, some organizations and retailers were publicly supporting Fair Oaks Farms. Kroger, a large retail store, did not pull any Fairlife products off of their shelves (Elejalde-Ruiz, 2019). Instead, Kroger stated its "long-standing commitment to the humane treatment of animals in their supply chain" and noted their close contact with the leaders of Fair Oaks Farms (Elejalde-Ruiz, 2019). Kroger additionally stated they trusted Fair Oaks Farms to take the necessary actions and ensure the health and welfare of their cows.

In addition to the first video, ARM Investigators released a second video titled "Second Undercover Investigation Reveals Widespread Dairy Cow Abuse at Fair Oaks Farms and Coca Cola" on June 13, 2019 (ARM Investigators, 2019c). The description of this video on YouTube suggests the broad impact the first video had on consumers.

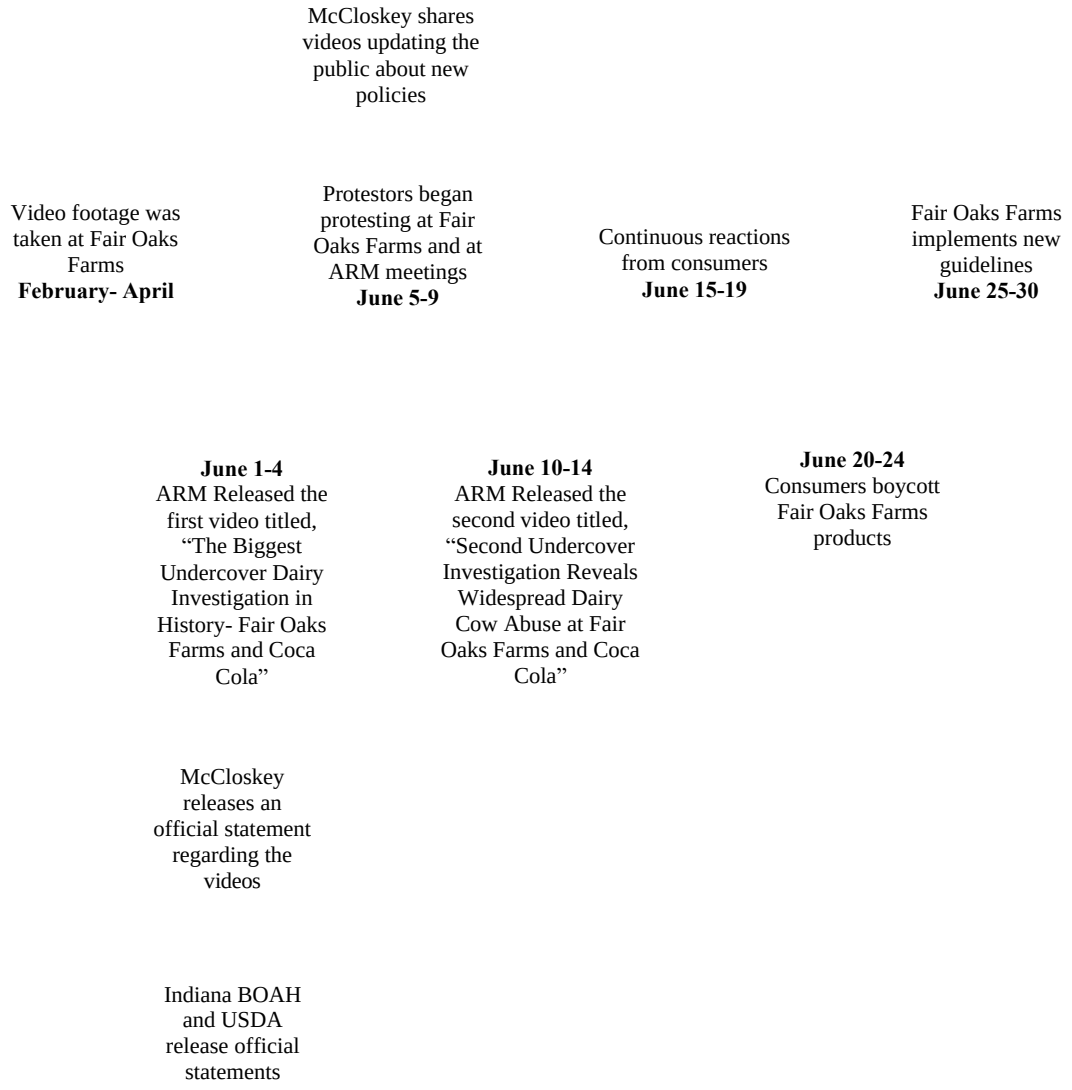
> Last week's video on the treatment of calves at Fair Oaks Farms sparked outrage worldwide and caused many retailers to reconsider their support of

> the Fairlife brand. With global news coverage and more than 8 million views on the video from the first Fair Oaks Investigation, many consumers are joining in protests. To date, more than a dozen retailers have stopped carrying Fairlife, including Jewel-Osco, Winn Dixie, and Sprouts (ARM Investigators, 2019c, para. 7).

Fair Oaks Farms, ARM Investigators, advocacy groups, and consumers disseminated the information and videos about Fair Oaks Farms at a rapid pace. From June to August, the Twitter discussions were constant. Fair Oaks Farms attempted to keep their facts and progress in the media and online platforms. However, the agricultural group is still combatting the conversations about this incident. Figure 1 shows a summarized timeline of the Fair Oaks Farms crisis. The month of June is when the majority of the action and advancements occurred during the crisis. Therefore, June is the primary month showcased in the timeline.

Figure 1

Fair Oaks Farms Crisis Timeline



Fair Oaks Farms has attempted to stay ahead of the conversations and have implemented new programs, new guidelines, third party audits, and has assembled cameras around the farm. The farm hopes the public can forgive them and continue to support their

organization. McCloskey speaks out providing updates on the current actions they are taking to ensure this never happens again (Fair Oaks Farms, 2019b).

Social Media/Social Networks

The Pew Research Center (2017), states 69% of Americans use some type of social media platform. Social media sites are "web based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connect, and (3) view and transverse their list of connections and those made by others within the system" (Boyd & Ellison, 2007, p. 1). Social media technologies allow user-generated content to not only be shared boundlessly, but also allow for public opinion to be influenced. When users are able to read, respond, and interact with other users, these tools usually result on greater engagement, higher likelihood of behavior change, and higher likelihood of change in public opinion. Social networking is the act of engaging with others using social media or other social tools (Hartshorn, 2010). Typically, social networking involves groups of people discussing a common topic or area of interest.

The inception of social media has continued to grow since the first social media site was created in 1997 (Boyd & Ellison, 2007). Since the inception, the number of social media sites has increased alongside the number of individuals using online communication tools. Currently, some of the most popular social media tools include Facebook, Twitter, Instagram, YouTube, and blogs. Twitter, a form of microblogging, is one of the most popular social media tools with 255 million active monthly users (Vashishtha & Susan, 2019). Twitter allows for faster communication among users.

The rapid adoption of social media tools, including Twitter, can be attributed to several reasons such as the desire to develop and maintain friendships (Pfeil et al., 2009); instant communication to a broad audience (Smith, 2009); timely and direct end-consumer contact (Kaplan & Haenlein, 2010); and advocacy (Allen, et al., 2010).

According to Edgett (2002) advocacy is publicly taking a stand for an individual, organization, or idea with the intentions of persuading target audience in favor of the chosen viewpoint. Social media tools facilitate a sense of community and foster interactions between people and advocacy of central ideas, beliefs, or topics, which can extend the communications of a message or controversy (Edman, 2010). Individuals or organizations can affect how audiences adopt messages or viewpoints by building relationships using social media tools (Rajagopalan & Subramani, 2003).

Twitter has been reported as a channel to advocate for the agricultural industry. Advocates for agricultural practices have reported incorporating Twitter to put a face with the farmer, establish dialogue between agriculturalists and those unfamiliar with the practices, and connect members of the agricultural industry (Payn-Knoper, 2009). Additional research has suggested Twitter to be used for posting daily updates from the farm, responding to questions regarding agricultural practices, and disseminating information on behalf of the issues agriculturalists are facing (Allen, et al, 2010).

Previous research in communications has sought to understand the impact online media has on public opinion during communication crises. Within the realm of agricultural research, previous studies have been carried out on controversial topics including: pink slime (Sellnow & Sellnow, 2014), food-based information (Gorham, et al., 2016), Genetically Modified Organisms (Steede, et al., 2018), and animal mistreatment, slaughter,

or welfare (Specht & Rutherford, 2013) and their influence on public opinion. Collectively, these studies suggest the influence user-generated content has on the general public. During a crisis, online content should provide credible information to shape the public opinion based on factual information (Sellnow & Sellnow, 2014).

Consumers are no longer just receiving information; they are participating and developing their own content (Jenkins, et al., 2013). Agriculturalists must be aware of the type of content being shared on social media, and they should strive to guide social media conversations in a manner that positively represents the industry in factual ways.

Significance of the Study

With consumers and activists directing their attention to animal welfare and agricultural practices, agriculturalists need to address how to effectively combat these messages by providing additional information regarding the production practices. Animal welfare may be a controversial topic, which may spur consumers to form strong opinions, but it is crucial for consumers' opinions be based on accurate information (Font-i-Furnols & Guerrero, 2014). It has become important for agriculturalists to develop accurate messages about animal production (Kubitz, et al., 2013) and to engage in conversations about these topics with consumers.

When making food choices, Americans are considering more factors than just taste and cost. One factor consumers are focused on today is where and how their meat is produced. With few Americans having first-hand knowledge of animal production practices, they must rely on additional sources to receive animal production knowledge. These sources include the media, social media outlets, and online networks. The publics' perception relies on information the public perceives about animal welfare, no matter the

source. McKendree, et al. (2014) found more than half of the respondents did not have a primary resource for obtaining animal welfare information. Additionally, the participants in this study commonly listed the Humane Society of the United States (HSUS) and the People for Ethical Treatment of Animals (PETA) (McKendree, et al., 2014) as a primary source for animal welfare information.

In the recent years, consumers have progressively moved toward online communications as their source for information on animal welfare and practices (Croney, et al., 2012; McKendree, et al., 2014). With 255 million active monthly users (Vashishtha & Susan, 2019; Hotzel, et al., 2017), Twitter has the potential to reach a large number of consumers regarding animal welfare. This online outlet provides producers with the opportunity to educate consumers about agricultural practices.

The prevalence and searchability of Twitter creates both opportunities and challenges for agriculturalists. With user-generated content the vast dissemination of information, it is important to monitor the content and provide factual information. The controversy of animal welfare could potentially have a negative influence on the agricultural industry, thus stressing the importance of how animal welfare is portrayed on social networks, including Twitter. Kubitz, et al. (2013) suggests agriculturalists could "help the agricultural industry maintain a positive image and reputation with the general interest media and their audiences" (p. 92). The concept of improving communication with consumers about animal welfare is prevalent in the literature (McKendree, et al., 2014; Verbeke, 2009).

This research will specifically look at online content posted about Fair Oaks Farms from June 2019- August 2019. It is vital for agriculturalists to understand the platforms consumers utilize to seek information during a communication crisis.

Purpose and Research Questions

Through this study, the researcher sought to determine how online media impacted the publics' opinion of Fair Oaks Farms and the welfare of their animals during the video mission from ARM Investigators during the specific time period of June 1-August 31, 2019 (2 months after the videos were released). The purpose of this study is to better understand how individuals were participating in online media, particularly on Twitter, and the public opinion of Fair Oaks Farms after the release of undercover videos. The discussion points and queries used in this study include @arminvestigatio, @fairoaksfarms, fair oaks farms, fair oak, farlife milk, animal rights, calves, arm, animal abuse, and fof. To address the purpose of this study, the researcher conducted 1) a social analysis and 2) a sentiment analysis to uncover the impact of the videos on social media and the individuals' opinion surrounding the topic.

A Social Analysis of Conversations about Fair Oaks Farm

Within a social analysis, consumers using social media can provide brands and organizations with an authentic consumer voice (Reid & Duffy, 2018). This allows for researchers to analyze how consumers converse with one another on social media. Furthermore, social media posts include different engagements including textual posts such as tweets, actions such as likes or retweets, participation with social networks, and participating using links or hashtags, which are visible to the user and community (Reid & Duffy, 2018). The following questions will be used to guide the social analysis of Twitter:

RQ 1: What were the demographics of Twitter users who engaged in the Fair Oaks Farms discussions?

RQ 2: How many total mentions of the identified queries regarding Fair Oaks Farms occurred across Twitter?

RQ 3: What was the Twitter reach regarding the ARM videos of Fair Oaks Farms?

RQ 4: What were the trending hashtags regarding the videos of animal abuse of dairy cows and Fair Oaks Farms on Twitter?

RQ 5: Who were the key influencers regarding the conversations about Fair Oaks Farms on Twitter?

RQ 6: What were the most prominent themes on Twitter regarding the animal welfare of the Fair Oaks Farms?

A Sentiment Analysis of Content Regarding the Videos of Fair Oaks Farms

A sentiment analysis is a textual study that analyzes people's opinions, sentiment evaluations, attitudes, and emotions from written language (Liu, 2012). Content is categorized as positive, neutral, or a negative tone. Sentiment analyses are often performed on new products, advertisements, campaigns, and analyzing social media feeds to gauge reactions (Kadam & Joglekar, 2013). This allows for analysts to conclude how particular topics are being discussed through social media platforms (Munro et al., 2015). The following research questions will be used to guide the sentiment analysis:

RQ 7: What was the overall sentiment of tweets regarding the video footage of Fair Oaks Farms and the dairy industry?

RQ 8: What key words and hashtags elicited a positive and negative response from consumers on Twitter regarding Fair Oaks Farms and the dairy industry?

RQ 9: What themes elicited a positive and negative response from consumers on Twitter regarding Fair Oaks Farm and the dairy industry?

Summary

The purpose of this study is to better understand how individuals were participating in online media, particularly on Twitter, and how individuals were discussing Fair Oaks Farms after the release of the undercover videos. The undercover videos incorporated video clips of calves being transported to veal farms, animal abuse, and illegal drug abuse by employees. During this study, the researcher will collect all tweets discussing Fair Oaks Farms from June 1, 2019 to August 31, 2019 in the United States. The Twitter posts will be analyzed to determine the impact (e.g. reach, likes, and mentions) the conversations had on Twitter users and the emerging themes within the conversations regarding Fair Oaks Farms.

CHAPTER 2. REVIEW OF THE LITERATURE

Today's consumers are more interested in their food than they ever have been. Consumers want to know if their food is safe and nutritious, the production, who is producing it, and how the animals are being treated in the process. To appease consumer's curiosity various blogs, vlogs, YouTube channels, and advocacy groups have been created to answer the endless questions consumers have about their food. In 2009, Farmers Assuring Responsible Management (FARM), sought to ease consumer's minds about the dairy industry (Farmers Assuring Responsibility Management [FARM], 2019).

Created by the National Milk Producers Federation, with support of Dairy Management, Inc., FARM began in 2009, and is focused on earning the trust of consumers across the country by establishing the highest standards for the dairy industry (FARM, 2019). FARM's mission is "To aid dairy farmers and cooperatives/processors in assuring consumers and customers that dairy farmers manage their animals, workforce, and land in a responsible manner through science driven methods and a commitment to continuous improvement" (FARM, 2019, para. 2). The program focuses on four areas: Animal Care, Antibiotic Stewardship, Environmental Stewardship, and Workforce Development (FARM, 2019).

Social Media

The progression of interactive, social, and self-publishing media online has undoubtedly changed the way we communicate. The presence of online media such as wikis, blogs, podcasts, and social media sites, including MySpace, Facebook, and Twitter have impacted the use of technology among businesses, organizations, and individuals

(Allen, et al., 2010). Social media sites have evolved since the beginning of their use in 1997 and continue to change each day (Boyd & Ellison, 2007).

Twitter is considered to be one of the most popular social media platforms in the world with 255 million active monthly users (Vashishtha & Susan, 2019). Twitter is a form of microblogging, which is a fairly new form of communications in which users describe their status in short posts distributed instantly by messages, mobile phones, email, or on the web. On Twitter, microblogging consists of text updates fewer than 280 characters (Twitter.com, 2019).

Users sign up for a username on the Twitter site, which gives them a personal identifier through their own profile. Twitter users establish a profile and begin sharing 'Tweets' and building relationships with other users. When users "follow" one another they build relationships beyond the people they know in the physical world. The relationship is built when the other user "follows" them back. This allows for the users to transfer information, conversations, and direct messages between one another.

Java, et al. (2007) found four main reasons users interact on Twitter. These four main reasons are daily chatter, conversations, sharing information/URLs, and reporting news. Whether users are utilizing Twitter for daily chatter, conversations, sharing information/URL's, or reporting news, they are prompted to answer the question "What's happening?" when connecting on the Twitter application or logging onto Twitter.com. In addition to sharing text updates, Twitter allows users the opportunity to share photos, videos, and links through their profiles.

Among sharing current statuses on Twitter, the online social media site provides the opportunity for users to interact with other users on the site. Users can like, comment, or

retweet (re-posting of a tweet to share that tweet with the users followers) tweets on Twitter (Twitter.com, 2019). This entices users to interact and converse between each other on the social media platform.

The evolution of social media is beyond users just conversing with other users. Users often report about the news, weather, or current events on Twitter (Java, et al., 2007). Advocacy groups, organizations, businesses, and political parties have now adopted Twitter as an instant and effective way to communicate with the public. These groups spread across almost all industries in the United States including, but not limited to, education (Rinaldo, et al., 2011; Tang & Hew, 2017); the government (Hubert, et. al., 2018); and agriculture (Meyers, et al., 2011).

The agricultural industry has adapted to the use of social media over the years. Twitter is a place for agriculture – whether its putting a face on producers, for dialogue between ag- and non-ag individuals, to diffuse myths about agriculture, crisis management, quick communication with consumers, or simply to showcase their day-to-day life (Payn-Knoper, 2009). Twitter often serves as an online avenue between producers and consumers to have conversations about the agricultural industry. Agricultural producers have the opportunity to provide information to help the general consumer gain a better understanding of how their food is being produced, combat anti-agriculturalists during an agricultural crisis, and resolve myths about agriculture with factual information.

Utilizing Java, et al. (2007) study on intentions of Twitter in the agricultural industry, producers can showcase their day-to-day operations to consumers of their farm. According to one study, 98% of farmers and ranchers have access to the internet and 79% of the farmers and ranchers with internet access use social media outlets (American Farm Bureau

Foundation, 2011). Producers accessing social media could allow for consumer's questions regarding practices to be answered, provide crisis management, or simply ease consumer's minds on agricultural practices through Twitter. For example, Twitter user "agchat" holds monthly conversations about agriculture and what the industry looks like from a producer standpoint. The hashtag #AgChat was created with the mission to "empower farmers and ranchers to connect with users to view and interact in the conversations" (AgChat Foundation, 2020). On the user's profile, the page's bio reads: "A monthly conversation for folks involved in business of growing food, fuel, feed and fiber on the first Tuesday of every month" (AgChat Foundation, 2011). This page utilizes the hashtag "#agchat" for followers to connect and participate in the conversation about agriculture each month.

Previous research has shown online conversations, such as #agchat, influences, shapes, and educates the participants involved in the conversations about the various topics (Pritchett, et al., 2014; Haller, et al., 2019). Participants feel a sense of belonging and social presence in these conversations. In one study participants reported to be stimulated to additional readings about different topics, become educated from the online conversations, and were overall satisfied by the online conversation #agchat (Pritchett, et al., 2014).

Content displayed on social media has the potential to shape the publics' opinion. Studies have shown social media has resulted in influencing the public's understanding and opinion of agriculture (Linder, et al., 2016; Enns, et al., 2016). Some research has shown social media content can influence consumers' attitudes about a topic positively or negatively (Randolph, et al., 2018). Ruth and Lundy (2005) found a shift in agricultural leadership from "traditional" conversations to online interactions.

Agricultural Organizations and Businesses

In addition to producers taking action on Twitter, agricultural organizations are also taking action on Twitter to advocate for the agricultural industry. American Farm Bureau has been leading the industry in advocating through Twitter. Since joining Twitter in 2009, American Farm Bureau has tweeted 17 thousand times and actively engages with its 72,000 followers (FarmBureau, 2019). Aside from American Farm Bureau prominently being on Twitter, 27 state Farm Bureau organizations have an active presence on Twitter. The top five states, according to number of followers include: Texas with 25,000 followers (TexasFarmBureau, 2019); Ohio with 19,000 thousand followers (OhioFarmBureau, 2019); Illinois with 15,000 followers (ILFarmBureau, 2019); Kansas with 11, 000 followers (KSFarmBureau, 2019); and Nebraska with 10,000 followers (NEFarmBureau, 2019). Farm Bureau maintains social media platforms, like Twitter, to share national, state, and local things occurring within the agricultural industry.

Many agricultural commodity groups have also adopted the use of Twitter to advocate and educate through interactions with consumers, such as National Cattleman's Beef Association (NCBA), National Pork Producers Council (NPPC), and Commodity Classic. Additionally, agricultural news organizations utilize twitter to relay news to consumers, including AgriNews, High Plains Journal, and Cal Ag Journal. The use of Twitter in agriculture does not slow down there. Agricultural agencies including the United States Department of Agriculture (USDA) and the United States Food and Drug Administration (FDA) have Twitter accounts.

Crisis Management

The use of social media during crisis situations could actually benefit the agricultural industry. For example, in 2015 all Blue Bell products were recalled off of the shelves due to the linkage of a multistate listeria outbreak. While the FDA had to take immediate action of informing consumers and providing pre-cautions for those who had consumed Blue Bell, social media was a prompt and immediate way to get the information out to the public. Considering the amount of news reporters, newspaper writers, and other media personals are on Twitter, utilizing Twitter to immediately disseminate information in a crisis could be considered important (Eye on FDA, 2009).

Aside from situational crises on social media, Twitter and other platforms have been used to fight negative conversations about agriculture. Groups or individuals against agricultural practices lead these conversations, such as The Humane Society of the United States (HSUS), People for Ethical Treatment of Animals (PETA) (Allen, et al., 2010), and Animal Recovery Mission (ARM). The opportunity to dispute myths about agriculture and the practices could be crucial for farmers' and ranchers' future identities (Graybill-Leonard et al., 2011; Meyers, et al., 2011).

In response to a crisis, organizations should implement social media as a major component in their response plan (Coombs, 2008; Irlbeck, et al., 2013; Gibson, 2014). The ability to respond to consumers and questions in a matter of seconds via social media provides unique advantages to organizations facing crises (Gibson, 2014). In the event of a crisis, organizations can use social media to identify warning signs that a crisis is developing, allowing them to inform the public before the media takes control of the situation (Coombs, 2008). Irlbeck et al. (2013) found practitioners within the agricultural

industry believed it was crucial for their organization to take immediate action if a crisis struck. This suggests the need for effective crisis communication.

Crisis communication provides information and knowledge to key stakeholders satisfying their need for information (Coombs & Holladay, 2012). Irlbeck et al. (2013) found that crisis communication can help fight a crisis, minimize damage, and protect the organization, and the agricultural industry from harm. Effective agricultural crisis communication has been recorded in Listeria outbreaks (Coombs, 2014); Salmonella outbreaks (Barr, et al., 2012); and Lean Finely Textured Beef (Schultz, 2012). During crises communication the use of social media is suggested as it has the ability to disseminate and deliver instantaneous messages to a large audience.

Social Media Monitoring and Listening Tools

In 2003, a controversy developed over the presence of trans fat in Oreo cookies. Kraft Foods turned to monitoring public sentiment of blogs to gauge the conversation among consumers (Terdiman, 2006). This began what is known today as social media monitoring and listening. Over the last decade companies, government agencies, political campaigns, and organizations have been utilizing social media monitoring tools and listening tools to gauge public opinion (Hofer-Shall, 2010).

Many marketers employ monitoring and listening tools to collect comments and engagement on social media platforms. In some cases they construct simple averages. However, in others they report specific metrics (e.g., number of retweeets, likes, and comments) to determine how the public is conversing about a brand, organization, or a campaign. This gives the analysts an idea of how the public is talking about them, and from

there agriculturalist can adjust their efforts to the needs of their customers (Schweidel & Moe, 2014).

Social media platforms (e.g. Twitter, Instagram, and Facebook) offer user-generated content- which allows for organizations to conduct social listening- a means by which analysts gather social media data online by 'listening' to conversations (Hofacker, et al., 2016; Killian & McManus, 2015; Schweidel & Moe, 2014). Content is then classified as being positive, negative, or neutral in tone (Liu, 2012).

Within social media monitoring, there are many tools available, including BrandWatch, Pulsar, Netbase, NUVI, and Social Studio. Each of these offer a slightly different set of functions for analysts to automate social media monitoring and listening activities. Some functions of social monitoring tools include workflow management, topic analysis, customizable dashboards, trends, and creation of word clouds. These tools can be used to gather consumer conversations about a topic, brand, or a news story (Reid & Duffy, 2018). Tools offering this opportunity allows for analysts to identify trending topics, crises, and sentiments towards a brand or topic in real time in a way that is relatively low cost, agile, and scalable (Starvrakantonakis, et al., 2012).

Sentiment Analysis

Since the early 2000's, sentiment analyses has grown to be one of the most active research areas in natural language processing (Liu, 2012). A sentiment analysis serves as an umbrella for many names and slightly different tasks (e.g. opinion mining, opinion extraction, sentiment mining, subjectivity analysis, affect analysis, emotion analysis and review mining). Traditionally, within academia researchers frequently employ both

sentiment analysis and opinion mining. The term sentiment analysis first appeared in 2003 by Nasuakawa and Yi (2003). According to Lui,

> A sentiment analysis is the field of study that analyzes people's opinions, sentiments, evaluations, appraisals, attitudes and emotions towards entities such as products, services, organizations, individuals, issues, events topics and their attributes (Liu 2012, p. 7).

Furthermore, Liu (2012) suggests the inception of sentiment analysis rapidly evolved with social media. Thus, sentiment analysis is now at the center of social media research (Liu, 2012). This coincides with Kadam and Joglekar's (2014) explanation of sentiment analysis. Before the 2000's there were little opinion text available in digital form; therefore, there was little research on Natural Language Processing (NLP). NLP is a subset of artificial intelligence where computers understand, interpret, and manipulate the human language. NLP bridges the gap between human communication and computer understanding. As social media continues to evolve the field of NLP also grows. Today's technology can analyze more language-based information than humans. NLP allows for computers to read text, interpret it, measure the sentiment, and measure what the opinion behind the text is.

Opinions are influencers to human behavior and are central to most human activities (Liu, 2012). When someone needs to make a decision, they often turn to other's opinions. Within the rapid implementation of social media, blogs, and online mediums, individuals and organizations are increasing the content for decision-making. Thus, finding and monitoring opinions of consumers can put businesses at an advantage. Recently, researchers have witnessed opinion postings in social media helping reshape businesses and sway public sentiments and emotions, which has impacted our social systems (Liu, 2012).

Previous research highlights the applications for sentiment analysis including sale predictions (Liu et al., 2007), ranking of products and merchants (McGlohon, et al., 2010), and relationships with blogs (Hong & Shiekna, 2010). Furthermore, Twitter sentiments have also been employed to track political standpoints (Chen et al., 2010), movie reviews (Asur & Huberman, 2010; Joshi et al., 2010), and predict stock markets (Bollen, et al., 2011). According to Liu (2012) Twitter postings are easier to analyze due to the fact they are shorter and straight to the point; therefore, this allows for high sentiment analysis accuracy.

Unlike factual information, opinions and sentiments are subjective. With sentiments being subjective, the sentiments imply being positive, negative, or neutral in tone. For example, good, wonderful, and amazing are positive sentiment words and bad, poor, and terrible are negative words (Liu, 2012) and words with no implied emotions are classified as neutral. A sentiment analysis primarily detects words that are adjectives and adverbs; however, the analysis can sometimes detect nouns and verbs. During a sentiment analysis, content is combined into a portal and reoccurring themes are identified within the topic. Once the themes are identified they are classified as being positive, negative, or neutral in tone.

Sentiment analysis can be done by hand. However, there are additional resources and social sites to help with the process. Nuvi, BrandWatch, Pulsar, Netbase, and Social Studio are examples of social listening tools, which offers the feature to classify online content as positive, negative, or neutral. In addition to the marketing, science, and political industries utilizing sentiment analysis, the agricultural industry has also incorporated this realm of research. Previous researchers have utilized social listening tools to determine

public online perceptions of Genetically Modified Organisms (Steede, 2018) and the food industry (Specht & Buck, 2019).

Theoretical Framework

Sherif's Social judgment theory will be the framework of this thesis and will be supported by two secondary concepts: selective exposure and framing theory. Social judgment theory places emphasis on the judgmental process and effects messages have on one's attitude (Sherif, et al., 1965). Specifically, the effect of a persuasive message depends upon the way in which the receiver evaluates the position it advocates. By this theory, a persuasive message influencing consumers' attitude depends on their position of the message. Sherif and Hovland (1961) describe an attitude as being "inferred from the characteristic pattern of the individual's reactions to a stimulus item" (p. 17, para. 1). In order for a judgment to occur, the individual must act on their attitude toward the given issue.

Mazufer Sherif is a social psychologist who spent his life seeking to understand groups and the members. Sherif is known to be the father of the self, social judgment, communication, and attitude change and formation research. His work was immensely influenced by the sociopolitical events during his academic career. Being from a small province in Turkey, Sherifs' work was influenced by the First World War, rising nationalisms, and later the Great Depression. These life-changing events influenced Sherif to study the effects events and components a group has on individuals. Harvey (1989) describes Sherifs' work as probing the attitudes, norms, and other components of the self to the extent in which ones judgment and perception is perceived. Though the theory used

in this thesis was not a direct result of Sherif's group components work, it was a theory on which he seems to have grounded his work upon, and this study fits nicely within the context of this theory. Sherif is known as being directly associated with the creation of modern social psychology (Sarup, et al., 1991); additionally, Sarup, et al. (1991) suggest the lasting impact Sherif's work has on the academic discipline. Sherif's work advanced the research in modern social psychology. His extensive work in groups, norms, and human interactions has been a framework for countless research studies over the last decades. Today, the discipline of social phycology continues to incorporate Sherif's work within academia. Additionally, Sherif's work has crossed disciplines, and is now used in the field of communication.

The key concept of social judgment theory is persuasion occurs at the end of the process where a person understands a message and compares the position it advocates to their position on the issue. Kiesler, et al. (1969) restated the central assumption of social judgment theory as a two-stage process:

> The theory explicitly views attitude change as a two-stage process. First, one makes a judgment about the position of the persuasive communication relative to one's own position. Attitude change occurs after this categorization or judgment. The amount of attitude change depends on the judged discrepancy between the communication and the respondent's own position (Kiesler, et al., 1969, p. 364).

According to this theory, Sherif postulates individuals will accept or reject a message depending how important the issue to them. If the issue is a significant one to them, then they will be willing to tolerate only a slight deviation from their viewpoint (Sherif & Holvand, 1961). However, if the issue is not significant to them, then they are more likely

to deviate from their viewpoint to learn more, engage, or interact with the opposing viewpoint.

While Sherif's theory analyzes the impact a persuasive message has on the receivers attitude change, the supplemental concepts used in this study views the impact exposure and the frame social media content has on consumers' perception of a topic. Selective exposure and framing theory can be paired together in the realm of communication research. The two theories complement each other to suggest the external factors social media content has on consumers' attitudes.

According to selective exposure, consumers may select particular media to consume based on their current interests (Klapper, 1960). Klapper's idea places emphases on individual's exposure to arguments supporting their existing interest and avoid what is not (Klapper, 1960). Therefore, this aspect of communication focuses on the idea that consumers select mediums and media contents with which they agree with and tend to select content that confirms their own ideas and avoid information that argues against their opinions.

Selective exposure is based on cognitive dissonance theory (Festinger, 1962). Cognitive dissonance theory suggests individuals face discomfort when they hold conflicting attitudes, beliefs, or thoughts about a particular topic (Festinger, 1962). Once individuals are aware of this conflict, the dissonance is created, and the individual will react to reduce the discomfort. In the realm of social media, this could include unlinking or unfollowing a page, person, or content, which they do not agree with. Consumers consuming online media often experience emotional attachment to the content (Bradley & Lang, 2000; Zillman, 2000). Through selective exposure, consumers choose the media in

which makes them feel good or which they agree with (Klapper, 1960), and interact with people, pages, and content reassuring them of their beliefs, attitudes, or thoughts about the topic.

While selective exposure suggests if a person sees the information, framing theory examines the implicit connections in the material (Lundy et al., 2018). In essence, framing theory suggests how something is presented to the audience influences how individuals process the information. Frames are abstractions working to structure message meanings. Framing a message can be a useful communication tool when it comes to conveying complex information to an audience (Scheufele & Tewksbury, 2007). Framing theory is no stranger to the agricultural communications world. Previous research shows framing theory used within different types of agricultural communication studies (Irlbeck, et al., 2017; Barr, et al., 2012; Ruth, et al., 2005). Bryant and Zillmann (2002) suggested frames are influential in communications. Frames weigh in shaping individuals' opinions, attitudes and actions (Bryant & Zillmann, 2002).

Bryant and Zillmann (2002) suggested frames are influential in communications; therefore, frames weigh in shaping individuals' opinions, attitudes and actions (Bryant & Zillmann, 2002). The frames used by online channels to present an issue have the potential to paint the understandings, perceptions, and subsequent reactions of the public (Lundy et al., 2018). In the realm of the agricultural industry, these frames could lead to "harmful repercussions for the entire industry" (p.13), by affecting public perceptions of agriculture as a whole and influencing trust placed in the industry (Ruth et al., 2005, p.13).

Social judgement theory will be the basis of this study and will be supported by selective exposure and framing theory to understand the types of the factors the social

media information has on consumers perceptions of the agricultural industry. In order for a judgement about animal welfare to occur, the consumer must first be exposed to the information and have a previous attitude on the topic. Additionally, in this study, how the animal welfare information is framed could influence how the consumer perception and interactions with the information being advocated. The three theories combined will help the researcher understand the internal and external factors social media has on consumers perception of the agricultural industry.

Summary

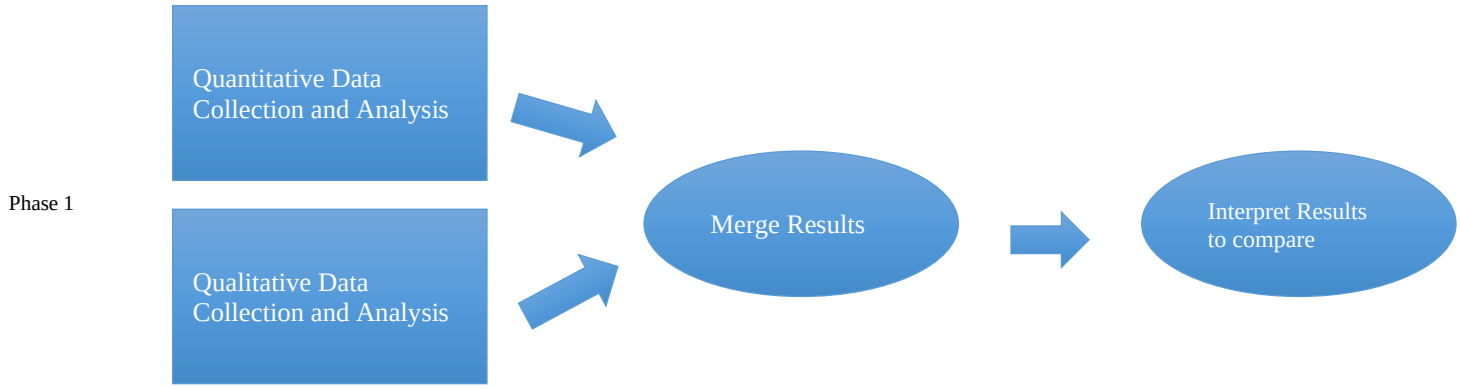
The purpose of this study is to better understand how individuals were participating in online media, particularly on Twitter, and how individuals were discussing Fair Oaks Farms after the release of undercover videos. Agricultural advocates and advocates for the opposition have adjusted their communication practices from traditional face-to-face interactions and traditional journalism to online networks, including social media channels. Through social media, both groups have an extensive presence and advocate their position at an accelerated pace. During the Fair Oaks Farms crisis, both parties utilized social media to disseminate information supporting their perspective.

CHAPTER 3. METHODOLOGY

Convergent mixed methods approach was used for this research (Creswell & Creswell, 2018). According to Creswell and Creswell (2018), "mixed methods involves combining or integration of qualitative and quantitative research and data in a research study" (p. 14). This study was convergent as opposed to explanatory or exploratory, as in this "single phase-approach" the researcher collects quantitative and qualitative data at roughly the same time and analyzes them separately (Creswell & Creswell, 2018, p. 217). Creswell and Creswell (2018) suggest convergent mixed methods approach to occur in one phase. This allows the data to be collected simultaneously through Social Studio (a social media monitoring and analytics tool), analyzed separately, and merged together to interpret the results. Figure 2 shows a convergent mixed methods model, which Creswell and Creswell (2018) propose for researchers to use within this approach:

Figure 2

Creswell and Creswell (2018) Convergent Mixed Methods Model



(Creswell & Creswell, 2018, p. 218)

The key assumption of this convergent mixed methods approach is quantitative and qualitative data provide different insights. Quantitative data provides numerical values to categorize based on content (Riffe, et al., 2019). However quantitative data disregards the thoughts, feelings, intentions, and attitudes of the content. Thus, the qualitative data supplements the quantitative data with the thoughts, feelings, and attitudes (the sentiment) of the data. This study is focused on both the descriptive data and the textual data of online content, specifically on Twitter. Murthy (2017) suggests when using a mixed method social media approach, Twitter is the best platform to use.

In this study, the quantitative and qualitative data will be collected at the same time using the same queries on Social Studio. The quantitative data will be the frequencies (i.e. the mentions, reach, and hashtags). However, the qualitative data will be collected from the textual tweets and then categorized by themes. Additionally, in this study the researcher will categorize the tweets as positive, neutral, or negative to answer the research questions.

In addition to Creswell and Creswell (2018), two other references have further contributed to the design of this study: *The SAGE Handbook of Social Media Research Methods* (Sloan & Quan-Hasse, 2017) and *The SAGE Handbook of Mixed Methods in Social and Behavior Research* (Tashakkori & Teddlie, 2010). These two references serve as a collection of methodologies, tips, and tools from expert scholars around the world. Divided into meaningful chapters, each chapter provides the researcher with reasoning in using these research methods in this study. In the coming pages, the contributing chapters will be explained as they influenced this study's design.

Purpose and Research Questions

Through this study, the researcher sought to determine how online media impacted the publics' opinion of Fair Oaks Farms and the welfare of their animals during the video mission from ARM Investigators during the specific time period of June 1-August 31, 2019 (2 months after the videos were released). The purpose of this study is to better understand how individuals were participating in online media, particularly on Twitter, and the public opinion of Fair Oaks Farms after the release of undercover videos. The discussion points and queries used in this study include @arminvestigatio, @fairoaksfarms, fair oaks farms, fair oak, farlife milk, animal rights, calves, arm, animal abuse, and fof. To address the purpose of this study, the researcher conducted 1) a social analysis and 2) a sentiment analysis to uncover the impact of the videos on social media and the individuals' opinion surrounding the topic.

A Social Analysis of Conversations about Fair Oaks Farm

Within a social analysis, consumers using social media can provide brands and organizations with an authentic consumer voice (Reid & Duffy, 2018). This allows for researchers to analyze how consumers converse with one another on social media. Furthermore, social media posts include different engagements including textual posts such as tweets, actions such as likes or retweets, participation with social networks, and participating using links or hashtags, which are visible to the user and community (Reid & Duffy, 2018). The following questions will be used to guide the social analysis of Twitter:

RQ 1: What were the demographics of Twitter users who engaged in the Fair Oaks Farms discussions?

RQ 2: How many total mentions of the identified queries regarding Fair Oaks Farms occurred across Twitter?

RQ 3: What was the Twitter reach regarding the ARM Investigators videos of Fair Oaks Farms?

RQ 4: What were the trending hashtags regarding the videos of animal abuse of dairy cows and Fair Oaks Farms on Twitter?

RQ 5: Who were the key influencers regarding the conversations about Fair Oaks Farms on Twitter?

RQ 6: What were the most prominent themes on Twitter regarding the animal welfare of the Fair Oaks Farms?

A Sentiment Analysis of Content Regarding the Videos of Fair Oaks Farms

A sentiment analysis is a textual study that analyzes people's opinions, sentiment evaluations, attitudes, and emotions from written language (Liu, 2012). Content is categorized being positive, neutral, or negative in tone. Sentiment analyses are often performed on new products, advertisements, campaigns, and analyzing social media feeds to gauge reactions (Kadam & Joglekar, 2013). This allows for analysts to conclude how particular topics are being discussed through social media platforms (Munro et al., 2015). The following research questions will be used to guide the sentiment analysis:

RQ 7: What was the overall sentiment of tweets regarding the video footage of Fair Oaks Farms and the dairy industry?

RQ 8: What key words and hashtags elicited a positive and negative response from consumers on Twitter regarding Fair Oaks Farms and the dairy industry?

RQ 9: What themes elicited a positive and negative response from consumers on Twitter regarding Fair Oaks Farms and the dairy industry?

Queries and Variables

As society has continued to become aware of problems and issues among the agricultural industry, more pressure is continually being placed on producers to create policies and effectively communicate these policies with consumers (Frick, et. al., 1995). Cartmell, et al. (2001) pointed to the fact journalists cannot receive training in all areas in which they report. Therefore, it is up to agriculturalists and producers to provide factual information to journalists, the media, and online sources. In order for the agriculturalists to provide this information, they must understand what information is lacking within the agricultural industry and then develop accurate messages reflecting the knowledge gap (Kubitz, et al., 2013) about animal production and to engage in conversations among each other and consumers about the industry. This study focuses on the livestock industry and the practices included in the industry. While there is little research focusing on the dairy industry, previous studies have suggested consumers have a positive perception on agricultural issues. However, additional studies have shown consumers thoughts were "less positive about the image of agricultural or performance in educating the public about the agricultural industry" (Cartmell, et al., 2001, p. 455). To combat this issue, consumers need reliable information and knowledge on agricultural issues (Ballantyne, 2009).

Animal welfare is an increasingly sensitive agricultural issue among consumers (McKendree, et al., 2014) as consumers are curious of the practices within the food chain and where their food comes from. The animal welfare was recently questioned at Fair Oaks Farms, a dairy farm. In June 2019, the videos released caused consumers to question the

farms practices and policies. The online conversations (particularly on Twitter) guided the queries for this study. After a brief search of the public content, the researcher noticed the following keywords reoccurring within these conversations: @arminvestigatio, @fairoaksfarms, fair oaks farms, fair oak, farlife milk, animal rights, calves, arm, animal abuse, and fof. Each of the identified queries was paired with Fair Oaks Farms to ensure the tweets were directly related to the accusations regarding Fair Oaks Farms.

Farmers Assuring Responsibility Management (FARM) and Animal Rights Mission (ARM) Investigators also helped the researcher refine the 10 queries. FARM's mission is to protect farmers and to ease consumers' minds about the dairy industry (FARM, 2019). The organization focuses on the care, rights, and welfare of dairy cattle. Information provided by FARM helped guide the focus of this study. ARM Investigators is the organization who released the videos about Fair Oaks Farms. Additionally, the videos description also helped guide the focus of this study.

Timeframe

ARM Investigators released the first video about Fair Oaks Farms on June 4, 2019. However, the undercover investigation was brought to McCloskey's, founder of Fair Oaks Farms, attention prior to the videos being released (Fair Oaks Farms, 2019, 0:48). Due to the prior knowledge of the videos, the McCloskey's released a statement in April regarding the upcoming videos and reinforcing the farm's mission of an open dialogue. While the McCloskey's video was released two months prior to ARM Investigator's videos being released, it did not cause a large amount of discussion among Twitter users. It was not until June when a large number of discussions about Fair Oaks Farms occurred on Twitter. This was prompted by the release of the two videos by ARM Investigators.

Twitter discussions began almost instantly about the videos and Fair Oaks Farms. In a crisis it is crucial for advocates and organizations to also move quickly to disseminate accurate messages about the industry (Kubitz, et al., 2013). In this case, it was important for the McCloskey's to speak to the videos and to adjust their farm's policies to fix the issues highlighted in the videos (Fair Oaks Farms, 2019b). As this process moved quickly, the researcher decided to set the specific timeline for this study from June 1, 2019- August 31, 2019. This time frame ensures the conversations about the two videos released by ARM Investigators (on June 4th and June 13th) along with the videos from Fair Oaks Farms, news coverage, discussions among consumers, and additional animal welfare organizations to be included in the search.

Twitter

Social media data has the capacity to provide insights, allowing for researchers to see into the world of communications where researchers have never been able to see before (Murthy, 2017). The impact and influence social media has on society today is extensively discussed in Chapter 1. This study only focuses on Twitter as the communicational platform rather than all of the social media networks. Stewart (2017) describes the importance of using Twitter in research as it "… offers a rich environment for the examination of social and material practices within the digital sphere and generates public data that can be analyzed via a variety of methods" (p. 251). The method used in this study is mixed methods as this approach integrates the capacity of a balanced study with the Twitter data (Murthy, 2017). As digital technologies have become integrated into cultural practices, the study of Twitter has been adopted and adapted extensively for research (Stewart, 2017). Twitter is based around curated and cultivated identities (Hogan, 2010)

and their interactions with other entities. Therefore, its lens is always multiple, fluid, and each user can have a voice (Stewart, 2017).

In previous studies, participants have reported using Twitter to converse and disseminate information during a communication crisis (Gibson, 2014). Consumers have reported using platforms, such as Twitter, in their communicational efforts as they are familiar with the platforms, ability to reach key influencers, and their perceived ease of use (Gibson, 2014). Therefore, utilizing Twitter in this study allows the researcher to understand the instantaneous conversations of disseminating of information regarding the Fair Oaks Farms crisis. An example of the impact Twitter conversations can have during an agricultural crisis is a study conducted by Wickstrom and Specht (2016). In this particular study the findings suggested the Twitter discussions were influential on publics' opinion regarding a water ban in Ohio. This study recommended agriculturalists exercise restraints in speaking publicly (on Twitter) about the agricultural industry (Wickstrom & Specht, 2016), as online discussions have the potential to influence public opinion. This is one of many examples how Twitter has influenced public opinion about the agricultural industry. Therefore, Twitter was selected as the platform to understand how the public discussed and interpreted the information regarding the videos about Fair Oaks Farms. Additionally, tweets are known to be easier to conduct a social analysis and a sentiment analysis on text due to the short length, which typically suggesting the tweet is straight to the point (Liu, 2012).

Data Collection and Analysis Procedures

Data was collected for this study in the Spring of 2020, indicating all information in this thesis is accurate up to the data of May 2020, to the best of the researcher's

knowledge. IRB approval was not required as all public profiles on Twitter are public knowledge, thus the researcher was able to progress forward without IRB approval. The collection of data began and was completed on January 31, 2020. The analysis began on February 1st, 2020 and was completed on March 1st, 2020.

According to Creswell and Creswell (2018), in order for a research design to meet the criteria of a convergent mixed methods study, the quantitative and qualitative data should be collected at the same time but should be analyzed separately. Therefore, in this study the researcher will collect the data simultaneously but will separate the data analysis into phases (phase 1 and phase 2). Phase 1 will be a quantitative data analysis and phase 2 will focus on an analysis of the qualitative data.

Phase 1: Quantitative Analysis

The researcher began collecting data using the subscription service Social Studio, a social "listening" tool which allows users to identify, collect, and analyze social media content, news media, blog, and video content. Social studio collects data related to keywords, hashtags, and public pages or users. Agriculturalist scholars have previously used similar listening tools to investigate conversations related to Swine Flu Pandemic (Szomszor, et al., 2011) and water bans (Wickstrom & Specht, 2016). Social Studio uses queries to identify content related to the search and allows the user to refine results based on demographics, regions, or specific timelines. For this study, the following queries were included: @arminvestigatio, @fairoaksfarms, fair oaks farms, fair oak, farlife milk, animal rights, calves, arm, animal abuse, and fof. Each of these queries was paired with Fair Oaks Farms to ensure the content collected was directly discussing Fair Oaks Farms, rather than collecting all data related to the queries. This will ensure the tweets collected will answer

the research questions and be an appropriate number of tweets for this project. The search was also narrowed to Twitter content posted in the United States between June 1, 2019 and August 31, 2019. Due to the videos being posted by ARM Investigators from June to July, these dates were selected for the search.

This search accounts for any mentions that include these terms or phrases on public Twitter accounts. Using Social Studio, the researcher will be able to export both quantitative (numerical) and qualitative (textual) data for further data processing and analysis. Thus, Social Studio provides a large amount of information; however, this study focuses on the variables shown in Table 1.

Table 1

Specific Variables and Definitions to be Collected Using Social Studio

Variable	**Definition**
Total Mentions	The total number of mentions within the search terms.
Total Reach	The number of people who saw the messages within the search terms.
Key Influencers	Social media accounts who contributed the most within the search terms.
Trending Hashtags	The hashtags used within the search terms.
Trending Themes	Repetitive terms used in the search terms.
Sentiment	Content is classified as positive, negative, or neutral.

The following queries were inputted into Social Studio, @arminvestigatio, @fairoaksfarms, fair oaks farms, fair oak, farlife milk, animal rights, calves, arm, animal abuse, fof. Each of these queries were paired with Fair Oaks Farms to ensure the content collected was discussing Fair Oaks Farms, rather than collecting all data related to the queries. The researcher set the guidelines of content posted on Twitter, in the United States, between June 1 and August 31, 2019, and including the mention of any of the queries. This

listening tool has access to the Twitter archive of all public published content. Social Studio users can search their desired content and download it in the form of comma-sorted variable (.csv). This studies query search resulted in 25,678 tweets, which were exported as a .csv. All of the tweets (*n*= 25,678) were analyzed during phase 1 (the quantitative analysis). The final spreadsheet was then saved in Microsoft Excel format and the quantitative data were uploaded into SPSS Version 25 and the qualitative data were uploaded into MAXQDA 2020, a qualitative analysis tool, for a thematic analysis. Once the quantitative data was opened in SPSS, the researcher utilized the descriptive statistical tool to interpret the numerical data in this study.

Using SPSS, the researcher ran descriptive statistics on the data set. The statistics included the frequencies to answer the research questions within the study. Frequency scores were provided for the demographics, number of total mentions, total reach, and the trending hashtags. Each of these variables were provided by Social Studio and the researcher evaluated them separately to determine the frequencies.

A quantitative analysis was conducted on the key influencers of the Fair Oaks Farms conversations. Social Studio provided a list of the top 100 key influencers during the identified time period. Social Studio determined the key influencers based on the number of followers and reach of the content shared or reshared by the account during this time. The top 25 Twitter accounts in terms of influence along with their account information as determined by Social Studio. The researcher directly downloaded the information for the top 25 key influencers from Social Studio. These were exported to an excel spreadsheet for analysis.

A social analysis of this content can provide the researcher a better understanding of who is sharing the greatest amount of information regarding Fair Oaks Farms and other agricultural practices during a crisis. Due to the fact all 100 of the influencers were Twitter users, the variables under the analysis were the username, number of followers, location, influencer score, and the tone (positive, neutral, or negative) in which the user was discussing Fair Oaks Farms during this time.

Phase 2: Qualitative Analysis

The search of the queries collected 25,678 tweets. The massive number of tweets collected suggested the researcher needed to determine an effective method to regulate the appropriate sample size for the representation of this data set. Based on Krejcie and Morgan's (1970) formula to determine appropriate sample size, the researcher needed to a sample size of 378. A sample size of 378 is an accurate representation of the data set (n=25,678) (Kregcie & Morgan, 1970). The sample will be used for the thematic analysis and to answer the research questions which are directly related the conversations about Fair Oaks Farms. The sample tweets were uploaded to MAXQDA 2020.

A thematic analysis was performed on the qualitative data set on Fair Oaks Farms. The goal of a thematic analysis is to identify themes, or patterns in the data that are important to the issue and use these themes to address the research (Clarke & Braun, 2013) questions. The researcher conducted a thematic analysis, or a search for important emergent themes related to a particular phenomenon (Fereday & Muir-Cochrane, 2006), the specific phenomenon being Fair Oaks Farms from June 1, 2019 until August 31, 2019. Within the coding process, themes were developed by the indication of emerging patterns.

The sample tweets (*n*=378) were analyzed for emergent themes and patterns that could shed light on research question 6 (what were the most prominent themes on Twitter regarding the animal welfare of the Fair Oaks Farms?) and research question 9 (what themes elicited a positive and negative response from consumers on Twitter regarding Fair Oaks Farms and the dairy industry?) of this study. To analyze the data collected through Social Studio, the researcher used a constant comparative method of analysis using open, axial, and selective coding. This analysis will result in "developing categories of information, interconnecting the categories, and building a story with the data" (Creswell, 2019, p. 195). Murthy (2017) suggests open coding approaches to study Twitter data can advance reliability and ultimately contribute to social knowledge. To allow the data set to showcase the emerging themes rather than predetermined themes a thorough thematic analysis was performed on the data set. Open coding guided the initial cycle of coding, with axial and selective coding methods providing additional support and insights to help tell the story within the data set. Braun and Clarke's (2006) six-step thematic analysis will guide the thematic analysis. A thematic analysis:

> Is arguably the most influential approach, in the social sciences at least, probably because it offers such a clear and usable framework for doing a thematic analysis… This is much more than simply summarizing the data; a good thematic analysis interprets and makes sense of it (Maguire & Delahunt, 2017, p. 3353).

There are different approaches to a thematic analysis (Alhojailan, 2012; Boyatzis, 1998; Javadi & Zarea, 2016). This variety means there is confusion about the nature of thematic analysis. To ensue reliability of the methodology of this study, the researcher has decided to incorporate the steps of Braun and Clarke's (2006) thematic analysis framework.

The researcher will modify the framework by adding a sentiment analysis as the final step. Braun and Clarke's framework suggests:

1. Become familiar with the data
2. Generate initial codes
3. Search for themes
4. Review themes
5. Define themes (Braun & Clarke, 2006).

Braun and Clarke (2006) distinguish between the two levels of themes, semantic and latent, in a thematic analysis. Semantic themes "within the explicit or surface meanings of the data and the analyst is not looking for anything beyond what a participant has said or what has been written" (p. 84). In contrast, a latent theme looks beyond what is being said and "… starts to identify or examine the underlying ideas, assumptions, and conceptualizations- and ideologies- that are theorized as shaping or informing the semantic content of the data" (p. 84). While the semantic themes of this study are important, the researcher is more focused on the latent themes of the tweets. The researcher is focused on understanding the underlying meanings and feelings behind the tweets rather than what is just being said in the tweet, which is the purpose of the sentiment analysis.

Before the final analysis was conducted, the researcher read through the entire body of all the collected data (the collected tweets from the search). Maguire and Delahunt (2017) and Braun and Clarke's (2006) suggest the importance of this step within any qualitative analysis. During each reading, the researcher made notes and wrote early impressions of the tweets to begin interpreting the information. Reading through the tweets in this manner

allowed for the organization of thoughts, first impressions, and impressions for themes. This was the initial step within the thematic analysis.

The next cycle of coding in the thematic analysis is to generate initial codes. In this stage, the researcher began to organize data into codes guided by Braun and Clarke's (2006) framework. Coding reduces large quantities of data into small meaningful chunks of information related to the research (Maguire & Delahunt, 2017). In this study, the qualitative analysis focuses on addressing the research question 6 (what were the most prominent themes on Twitter regarding the animal welfare of the Fair Oaks Farms?) and research question 9 (what themes elicited a positive and negative response from consumers on Twitter regarding Fair Oaks Farms and the dairy industry?). The researcher used open coding, meaning there were not pre-set codes; however, codes were developed and modified as the researcher worked through the coding process (Maguire & Delahunt, 2017). The researcher had an idea of initial codes from the set queries and after completing step one of the coding process. Additionally, the researcher worked through each of the tweets and began identifying themes within the tweets.

The codes will be organized into a structure and will sort the tweets into themes. A theme is "a pattern that captures something significant or interesting about the data and/or research question" (Maguire & Delahunt, 2017, p. 3356). Braun and Clarke (2006) explain there are no fast rules about what makes a theme. A theme is characterized by its significance. In this study, the themes should be what Twitter users were primarily saying about Fair Oaks Farms from June 1, 2019 to August 31, 2019. These themes will later be categorized as being positive, neutral, or negative in tone regarding Fair Oaks Farms. During this step, the codes will be organized into broader themes that say something

specific about the research questions. Due to the nature of this study, the emerging themes are primarily descriptive; this meaning the data is relevant to the research questions. The following themes were identified within this cycle of coding:

- Boycotting Fair Oaks Farms
- Supporting Fair Oaks Farms Practices
- Consumers have power
- Animal abuse
- Against the industries practices
- Impulsive acts and language
- Updates on the investigation
- Disseminating information

Grouping the tweets as such allowed the researcher to begin reviewing the themes and to interpret, give context, and make inferences about the tweets about Fair Oaks Farms. During this cycle, the researcher reviewed the themes and modified or developed the preliminary themes. While the themes are categorized by theme in MAXQDA 2020, the researcher can review the assigned categorizes and considered if the data supports the theme. During this cycle, the researcher checked to see if any of the themes overlapped each other.

The final refinement of the themes is to "identify the 'essence' of what each theme is about" (Braun & Clarke, 2006, p. 92). The researcher utilized the research questions to refine the themes. Below the corresponding themes are defined according to the previous literature, previous knowledge, codes, and the research questions:

Definition of Themes:

Theme 1: Consumers Perceived Responsibility: Consumers felt as if they should share information, provide updates, and they felt responsible for implementing a plan during these discussions.

Theme 2: Understanding Consumers Expectations and Perceptions of the Livestock Industry: Consumers not only though this was an issue among Fair Oaks Farms but thought this was a direct representation of animal welfare among the entire agricultural industry.

Theme 3: Supporting Fair Oaks Farms to Initiate Transparency: In this theme, Twitter users believed in Fair Oaks Farms mission of transparency. These users stood behind Fair Oaks Farms during this time and believed they would take the necessary steps to ensure proper animal welfare practices were present.

Theme 4: Inappropriate or Vulgar Responses: In this theme, Twitter users primarily used profanity and degrading language to negatively portray Fair Oaks Farms.

Theme 5: Impulsive Responses to Video Crisis: A common theme among consumers was to boycott Fairlife and Fair Oaks Farms. Consumers additionally encouraged their counterparts to do the same and demanded retailers remove these products from their shelves.

Coding the tweets using the open coding method allowed the researcher to attach labels and themes, which emerged from the Twitter content. This coding method allowed for the researcher to critically categorize the content based on the content rather than the researcher's assumptions when beginning the coding phase. After the data collection and social analysis was complete, the researcher used the narratives to conduct a sentiment analysis to analyze the Twitter users' opinions, sentiment evaluations, attitudes, and emotions from the narratives (Liu, 2012).

Sentiment Analysis

To adhere to the dual purpose of this study, the researcher performed a sentiment analysis to uncover the impact the videos of Fair Oaks Farms had on the Twitter user's opinion of the topic. When discussing a particular phenomenon, emotions play an important, but often unacknowledged, role in communication and therefore needs to be investigated so their position can be fully understood (Thelwall, 2017). While it is crucial to investigate what the public is saying about Fair Oaks Farms during this crisis, it is even more important to investigate if the publics' tweets are positive, neutral, or negative regarding Fair Oaks Farms. Consumers' opinions are central to almost all human activities because they are influencers on our behaviors (Liu, 2010). If agriculturalists can understand the publics' opinions, thoughts, and feelings about the phenomenon, then they can further engage and develop positive messages regarding animal production (Kubitz, et al.,2013). In this phase of the study, the researcher is particularly interested in the keywords, phrases, hashtags, and themes in which elicited positive and negative responses regarding Fair Oaks Farms during this time.

Due to the convergent mixed methods approach used in the social analysis, the researcher already had the emerging themes categorized in MAXQDA 2020. Coding the data this way allowed for the researcher to categorize the themes and to quickly hone the codes into this phase and identify these broad themes (Namey, et al., 2008) for the researcher to classify the keywords, hashtags, and themes as positive, neutral, or negative. The sentiment analysis for this study will be quantitative in nature. Codes will be assigned to the tweet based on having positive, negative, or neutral tones, feelings, or attitudes within the text. The researcher will assign a code based on if the keyword, hashtag, or theme is positive, neutral, or negative.

While there are countless sentiment analysis programs available, the researcher classified the sentiment of the tweets using a human coder. Although online programs can be faster than human coding, humans can better detect vague, ambiguous, sarcastic, or awkwardly worded texts that software are unable to (Riffe, et al., 2014). Software programs can often dismiss the human language. The user-generated texts are made for humans (Riffe, et al., 2014); therefore, humans are better able to detect the thoughts and feelings behind the content a computer program may be unable to. The researcher read each tweet and determined if each individual tweet was positive, negative, or neutral. Since the tweets were previously organized in themes, the researcher began analyzing the sentiment of the themes first. As the researcher was coding the tweets within the themes, additionally tweets were coded if they contained keywords or hashtags. Similar to the qualitative data, these codes were organized within MAXQDA 2020. Due to the thematic analysis, the researcher had provided footnotes and a prior understanding of the sentiment behind the themes.

Sentiment classification is usually divided into two-classes, positive and negative (Liu, 2012). In essence, sentiment words indicate positive or negative opinions are important (i.e. great, excellence, amazing, horrible, bad, etc.). While some words directly suggest text to be positive or negative, it is more difficult to identify neutral text in nature. Neutral text is often seen in newspapers and media pieces due to the fact journalists are trying to disseminate information without expressing their opinions on the matter (Go, et al., 2009). In this study, each tweet was analyzed individually to be classified as positive, negative, or neutral in tone. The tweets were rated on a three-point scale as being 1=positive, 2= neutral, or 3=negative.

As other social scientists have done little research on the accuracy of the sentiment analysis by a computer generator, the researcher hand coded the sentiment of the key influencers tweet. Humans are better equipped to understand vague, sarcastic, and ambiguous language often used in the realm of social media content (Riffe, et al., 2014). The content was made for human interpretation; therefore, it is important for a human to analyze the content rather than computer interpretation. This ensures the used language will be interpreted whereas it was intended since a computer program may not be able to (Riffe, et al., 2014). The researcher identified key influencers as having a positive, neutral, or negative influence on the Fair Oaks Farms conversations.

Basic Assumptions and Limitations of this Study

The scope of this investigation included publicly available accounts who tweeted about this particular phenomenon from June 1- August 31, 2019. For the large amount online discussions, the researchers must assume Twitter is a social media platform with a significant amount of public discussion regarding Fair Oaks Farms during this time. An additional assumption in this study is the researcher will be able to code the tweets as being positive, negative, or neutral in tone based on key words within the tweets. To help address this, the researcher will explain the coding process and will use previous literature to understand the true meaning behind the Twitter users' tweet. Additionally, the researcher will log keywords in which they classify the tweet as being positive, negative, or neutral.

The largest limitation in the study is the fact Twitter was the only social media platform analyzed. By only utilizing Twitter, the limitation exists of not knowing what consumers were saying on other sites (i.e Facebook, YouTube, and Instagram). While

limitations exist in this study, the researcher seeks to overcome these limitations and analyze the Twitter data.

Summary

The purpose of this study is to better understand how individuals were participating in online media, particularly on Twitter, and how individuals were discussing Fair Oaks Farms after the release of undercover videos. The undercover videos incorporated video clips of calves being transported to veal farms, animal abuse, and illegal drug abuse by employees. During this study, the researcher will collect tweets discussing Fair Oaks Farms from June 1, 2019 to August 31, 2019. Using quantitative and qualitative approaches, the Twitter posts will be analyzed to determine the impact (e.g. reach, likes, and mentions) these conversations had on Twitter users and the emerging themes within the conversations regarding Fair Oaks Farms. This study will help agriculturalists understand the extent in which consumers use social media during an agricultural crisis.

CHAPTER 4. RESULTS

This study sought to determine how online media impacted the publics' opinion of Fair Oaks Farms and the welfare of their animals during the video mission from ARM Investigators during the specific time period of June 1-August 31, 2019 (2 months after the videos were released). The purpose of this study is to better understand how individuals were participating in online media, particularly on Twitter, and the public opinion of Fair Oaks Farms after the release of undercover videos. The discussion points and queries used in this study include @arminvestigatio, @fairoaksfarms, fair oaks farms, fair oak, farlife milk, animal rights, calves, arm, animal abuse, and fof. To address the purpose of this study, the researcher conducted 1) a social analysis and 2) a sentiment analysis to uncover the impact of the videos on social media and the individuals' opinion surrounding the topic. In this chapter, the findings related to the following research questions are provided:

RQ 1: What were the demographics of Twitter users who engaged in the Fair Oaks Farms discussions?

RQ 2: How many total mentions of the identified queries regarding Fair Oaks Farms occurred across Twitter?

RQ 3: What was the Twitter reach regarding the ARM videos of Fair Oaks Farms?

RQ 4: What were the trending hashtags regarding the videos of animal abuse of dairy cows and Fair Oaks Farms on Twitter?

RQ 5: Who were the key influencers regarding the conversations about Fair Oaks Farms on Twitter?

RQ 6: What were the most prominent themes on Twitter regarding the animal welfare of the Fair Oaks Farms?

RQ 7: What was the overall sentiment of tweets regarding the video footage of Fair Oaks Farms and the dairy industry?

RQ 8: What key words and hashtags elicited a positive and negative response from consumers on Twitter regarding Fair Oaks Farms and the dairy industry?

RQ 9: What themes elicited a positive and negative response from consumers on Twitter regarding Fair Oaks Farm and the dairy industry?

In addition to its capabilities to collect Twitter data, Social Studio provides researchers with demographic information for public Twitter users engaged in conversations of interest. This broad demographic data includes age range, gender, distribution by country, and distribution by state (for U.S. users). This platform also detects relationships among conversation participants and identifies influential members of the community using a proprietary algorithm based on followership, number of interactions, and tweet volume. Social Studio's influencer scores range from 0 (little to no influence) to 100 (very high influence). Each user is given influencer score based on their interactions with other members of the conversation. Demographics were recorded for 16,215 users who had demographic information on their profiles. Influencer scores, trending hashtags, and trending words were recorded using Social Studio for the entire 25,678 tweets from the initial collection. However, 378 tweets were analyzed in the qualitative analysis.

Findings

Social Analysis

RQ 1: What were the demographics of Twitter users who engaged in the Fair Oaks Farms discussions?

Research question one sought to determine the demographics of the Twitter users who engaged in the Fair Oaks Farms conversations. The demographics for this study included age, identified gender, and location of the Twitter users who tweeted about the particular phenomenon.

Social Studio tools were used to collect and report demographic characteristics of users participating in the Fair Oaks Farms conversations. As noted above, 25,678 tweets contributed to the conversations. It is important to note, Twitter does not require users to provide demographics on their profiles. Demographic information from those who provided their gender (*n*=16,615), age (*n*=1,155), and state (*n*=6,576) is shown in Table 2, Table 3, and Table 4. Of the demographics, Twitter users discussing Fair Oaks Farms were primarily female (67%), between 25-34 (25%), and lived in Illinois (23%).

Table 2

Frequency and Percentages Specified Gender of those who Participated in the Discussions

Gender (*n*=16,615)	*f*	%
Female	11,112	67%
Male	5,502	33%

Note. Only 16,615 Twitter users specified their gender on their profiles.

Of the 25,678 tweets only 1,155 Twitter users provided their age range on their Twitter profile. It is important to note Twitter does not require users to provide their age, gender, or geographic location. Twitter leaves demographic questions up to the users' discretion. Users have the opportunity to put as much or as little information on their Twitter profile.

Of the users who provided demographical identifiers on their profiles, 1,155 of the Twitter users specified an age range. Of the specified age ranges, participants were primarily 25-34 (25%) and 35-44 (23%). Additionally, those between the ages of 45-54

(19%) participated and those between the ages of 18-20 (2%) participated in the discussions about Fair Oaks Farms.

Table 3

Age Ranges of Twitter Users Discussing Fair Oaks Farms

Age (*n*=1,155)	*f*	%
15-24	179	15%
25-34	293	25%
35-44	262	23%
45-54	223	20%
55-64	117	10%
65+	81	7%

Note. Only 1,155 Twitter users specified their age range on their profiles.

The Social Studio search was limited to Twitter content shared within the United States; therefore, all of the 25,678 tweets were in the United States. Like age and gender, users do not have to specify which state they are from on their profile; however, some do. Of the users who provided their location in terms of state, per the geographic filter, Illinois (23%), Indiana (16%), Georgia (13%), Texas (12%), and California (12%) were best represented during the discussions. The top 10 states contributing to the Fair Oaks Farms conversations are shown in Table 4 along with their number of occurrences.

Table 4

Top 10 States Participated in the Fair Oaks Farms Conversations

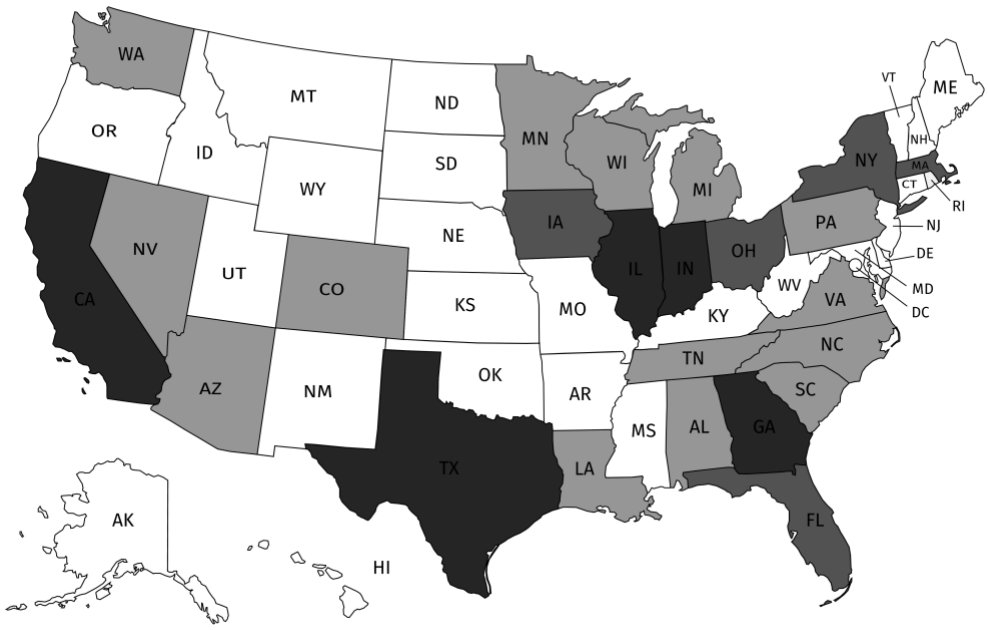
State (*n*=25)	*f*	%
Illinois	1,500	23%
Indiana	1,062	16%
Georgia	840	13%
Texas	778	12%
California	769	12%
New York	523	8%
Florida	396	6%
Ohio	264	4%
Iowa	225	3%
Massachusetts	219	3%

Note. Of the United States, only 8,314 users specified what state they lived in.

Of the United States, only half of the states had a representation of participants in the conversations about Fair Oaks Farms. An additional representation of the states who participated in these conversations is shown in Figure 3. States with higher participation are shaded darker than their counterparts. The states who did not participate in these conversations are not shaded (white).

Figure 3

Map of the United States who Participated in the Fair Oaks Farms Conversations



Note. The shapes with darker shading indicate higher participation in the conversations than their white counterparts.

RQ 2: How many total mentions of the identified queries regarding Fair Oaks Farms occurred across Twitter?

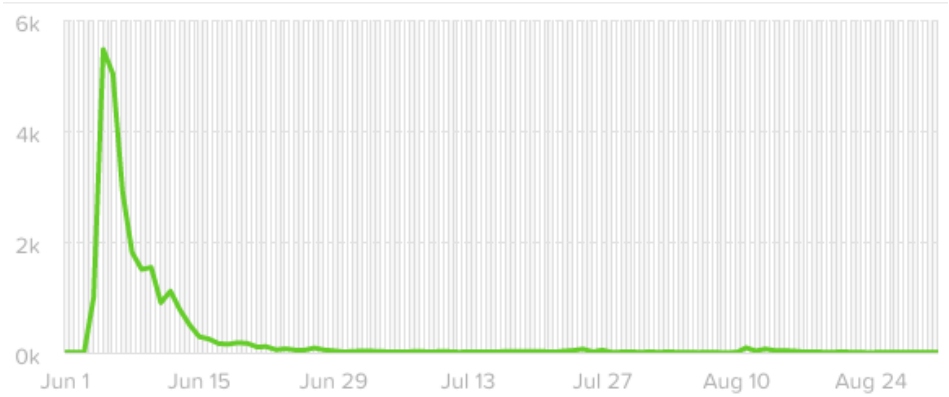
Research question two sought to determine the total number of mentions of the Fair Oaks Farms queries from June 1, 2019 -August 31, 2019. The researcher used data from Social Studio to evaluate the frequencies of the Fair Oaks farms conversations and mentions. The number of mentions is the number of times the queries were indicated in the data collection.

The queries @arminvestigatio, @fairoaksfarms, fair oaks farms, fair oak, farlife milk, animal rights, calves, arm, animal abuse, fof. Each of these queries were paired with Fair Oaks Farms to ensure the content collected was directly discussing Fair Oaks Farms,

rather than collecting all data related to the queries. This search generated *n*=25,678 Twitter mentions of the search term that were posted during June 1, 2019- August 31, 2019. Figure 4 illustrates the searches popularity, with unusual high bursts of activity when ARM Investigators release the first video, which showcases the primary accusations against Fair Oaks Farms.

Figure 4

An Illustration of the Searches Popularity



Note: The peak in conversations occurred around June 4th, which is when ARM Investigators released the first video regarding their accusations against Fair Oaks Farms. These conversations continued at a rapid pace for a few weeks after the release of the first video and into the second video release.

The peak in conversations about Fair Oaks Farms is on June 4th and June 13th, these are the dates in which ARM Investigators released the videos about Fair Oaks Farms. Since these are the dates the conversations peaks, it can be stated the conversations about Fair Oaks Farms were directly related to the accusations about them from ARM Investigators. Table 5 shows the number of Fair Oaks Farms mentions separated in seven day increments.

Table 5

Total Mentions of Fair Oaks Farms Queries (n=25,678)

Date	*f*
June (*n*=24,561)	
1-7	14,658
8-15	8,386
16-23	1,171
24-30	346
July (*n*=638)	
1-7	149
8-15	128
16-23	156
24-31	205
August (*n*=479)	
1-7	63
8-15	268
16-23	103
24-31	45

Majority (*n*=24,561) of the mentions of Fair Oaks Farms occurred in June. However, each day in the identified timeframe, there were at least one mention of the Fair Oaks Farms queries. The conversations were continuous although the number of mentions were not consistent.

RQ 3: What was the Twitter reach regarding the ARM videos of Fair Oaks Farms?

Research question three sought to determine the reach of the conversations about Fair Oaks Farms. The researcher collected the number of comments, likes, retweets, tweets, and engagements to determine to overall frequencies (or the reach) of these conversations.

The reach of the content is the number of posts, comments, likes, and engagements combined. Twitter posts from June 1-August 31, 2019 had the potential to reach 63,112 people. Whether Twitter users decided to interact with the content or continue scrolling

through their feed, a minimum of 63,112 users saw the tweets, retweets, comments, or likes on Twitter. During the identified time frame there were 16, 257 comments, 20,905 post likes, and 272 Twitter engagements on all Twitter posts (*n*=25,678). Additionally, there were 25,678 tweets or retweets about Fair Oaks Farms during this phenomenon.

RQ 4: What were the trending hashtags regarding the videos of animal abuse of dairy cows and Fair Oaks Farms on Twitter?

Research question four was to identify the trending hashtags during the Fair Oaks Farms conversations. Social Studio provided the top fifty trending hashtags. The researcher evaluated the frequencies of the hashtags being used during this time.

A total of 15,088 hashtags were included in this phenomenon from June 1, 2019-August 31, 2019. The top five trending hashtags were #dairy, #animalwelfare, #vimeo (which is a professional video platform), #dairyfree, and #dairyfarm. Three of these five hashtags could be clearly identified as relevant to the dairy industry. The top 15 trending hashtags along with the number of occurrences are reported in Table 6.

Table 6

Top 15 Trending Hashtags of the Fair Oaks Farms Conversations

Hashtag (*n*=50)	*f*	%
#dairy	1,486	10%
#animalwelfare	1,448	10%
#vimeo	1,296	9%
#dairyfree	1,156	8%
#dairyfarm	1,008	7%
#gamechanger	1,006	7%
#publix	988	7%
#fairoaksfarms	905	6%
#animalabuse	460	3%
#fairoaks	404	3%
#fairlife	376	3%
#indiana	318	2%
#boycottfairoaksfarms	314	2%

Table 6 (continued)

#boycottcocacola	285	2%
#cocacola	274	2%

Note. These were the top 15 of the 50 trending hashtags. A total of 15,145 hashtags were used during this time.

RQ 5: Who were the key influencers regarding the animal welfare of the Fair Oaks Farms on Twitter?

The purpose of research question five is to determine who had the greatest influence on the Fair Oaks Farms conversations. The researcher used Social Studio to collect the top 100 key influencers and the information about their accounts. Key influencers are assigned a code in Social Studio. The influencer is provided a code from 0-100. This code is based off of the number of followers the account has and tweets reach. The frequencies were evaluated based on the Social Studio data.

Social Studio has the capability to identify the key influencers of these conversations. Huddy defines influencers as:

> Influencers are social media users or accounts that drive and influence a conversation. In social media analytics, identifying influencers adds context to analysis and helps brands understand the reasons behind the influence and how to harness it (Huddy, 2018).

A quantitative analysis was conducted on the key influencers of the Fair Oaks Farms conversations. Social Studio provided a list of the top 100 key influencers during the identified time period. Social Studio determined the key influencers based on the number of followers and reach of the content shared or reshared by the account during this time. The top 25 Twitter accounts in terms of influence along with their account information, as determined by Social Studio, are included in Table 8. The researcher

directly downloaded the information for the top 25 key influencers from Social Studio. These were exported for analysis.

A social analysis of this content can allow the researcher to gain a better understanding of who is sharing the greatest amount of information regarding Fair Oaks Farms and other agricultural practices during a crisis. Due to the fact all 100 of the influencers were Twitter users, the variables under the analysis were the username, number of followers, location, influencer score, and the tone (positive, neutral, or negative) in which users were discussing Fair Oaks Farms during this time.

Social Studio determined the key influencers based on the number of followers and reach of the content shared or reshared by the account during this time. The top five key influencers were "CNN," "CBSnews," "ajplus," "chicagotribune," and "CNNBusiness." All five of these key influencers were news stations. Three of the top influencer scores were omitted for being identified as scam accounts.

Of the top 100 key influencers, 65 (67%) of them were news stations or journals. There were no organizations associated with agricultural or agricultural practices represented in the top 100 key influencers list. However, three (3%) of the top 100 key influencers were Twitter users against agricultural production and practices. Personal accounts (20%) were represented within the top 100 key influencers. Additionally, 10% of the key influencers were organizations. These organizations included companies such as Kroger and Coca Cola. Table 7 shows the occurrences of the account types who participated in these conversations.

Table 7

Key Influencer's Account Types

Account type	*f*	%
News Station/Reporter	65	65%
Personal Account	19	19%
Large Organization	10	10%
Anti-Agricultural Group	3	3%
Omitted as Scam	3	3%
Agricultural Group	0	0%

Note: Three influencers were omitted due to being scam accounts. Of the key influencers, there were no agricultural groups represented in the top 100 key influencers.

As other social scientists have done little research on the accuracy of the sentiment analysis by a computer generator, the researcher hand coded the sentiment of the key influencers tweet. Humans are better equipped to understand vague, sarcastic, and ambiguous language often used in the realm of social media content (Riffe, et al., 2014). The content was made for human interpretation; therefore, it is important for a human to analyze the content rather than relying on computer interpretation. This will ensure the used language will be interpreted as it was intended since a computer program may not be able to detect the appropriate sentiment (Riffe, et al.,, 2014). The researcher identified each key influencer as having a positive, neutral, or negative influence on the Fair Oaks Farms conversations.

Of the top 100 key influencers, there were no agricultural groups represented. In fact, Fair Oaks Farms was not identified as being one of the top 100 influencers. Meaning Fair Oaks Farms had lower than an 80-influencer (out of 100) score during the conversations about the accusations against their farms. Fair Oaks Farms has 6,817 followers (fairoaksfarms, 2020). Fair Oaks Farms was not one of the top 100 key influencers, and Social Studio did not collect their tweets during the identified timeframe.

Additionally, of the 378 tweets analyzed, none of the content was from Fair Oaks Farms. Since Social Studio did not present this information, the researcher is not able to provide examples of tweets from Fair Oaks Farms during this time. Fair Oaks Farms was not a key influencer during the timeframe; however, Social Studio identified Coca Cola, Fairlife distributer, as number 14 of the top 100 key influencers. Coca Cola now owns Fairlife milk (CocaCola, 2020). At the time of this crisis, Fair Oaks Farms was one of the 30 suppliers of Fairlife milk.

At the time of this crisis, Fair Oaks Farms was one of the 30 suppliers of Fairlife milk. From June 1, 2019-August 31, 2019, Coca Cola had an extensive presence on Twitter. The researcher identified Coca Cola as having a negative influence on consumers perceptions of Fair Oaks Farms during this time. Coca Cola's conversations about Fair Oaks Farms were in a negative manner. For example, one of their tweets is as follows:

> We know people have high expectations of our conduct & that we can help improve animal welfare across the dairy industry. That's why we are investigating all fairlife's suppliers and have stopped using milk from Fair Oaks Farms indefinitely.

Of the top 100 key influencers, the researcher identified influencers as having a positive (n=4), neutral (n=39), or negative (n=54) tone about Fair Oaks Farms. Example of positive influencers include influencers who identified Fair Oaks Farms as outstanding leaders, encouraged consumers to go visit the farm firsthand, and encouraged consumers to view McCloskey's public apology. A tweet that was coded as positive was, "Congratulations Fair Oaks Farms and Mike McCloskey for the way you have been addressing this issue, for your transparency and sincerity. It reinforces that sustainability is a journey, not a destination and that we have to always keep improving." Whereas the

tweet, “I want to imagine these persons have a beaten life in prison, and a slow lonely death” is an example of a negative tweet. Neutral influencers, primarily news stations and reporters, primarily shared information and updates about Fair Oaks Farms during this time. Neutral influencers tended to adhere to the facts about the crisis. Influencers were identified as having a negative influence on consumers perceptions of Fair Oaks Farms for using words such as graphic, brutal, horrific, boycott, unacceptable, and not tolerable. The top 25 influencers are identified in Table 8 along with their username, number of followers, location, account type, and identified sentiment of tweets.

Table 8

Top 25 Key Influencers of the Fair Oaks Farms Conversations During June 1, 2019 and August 31, 2019

Account Name	Number of Followers	Location	Influencer Score	Account Type	Sentiment of Tweets
@CNN	45 Million	Atlanta, GA	98	News/Media	Neutral
@CBSnews	7.1 Million	New York, NY	97	News/Media	Neutral
@ajplus	1 Million	Not specified	93	News/Media	Neutral
@chicagotribue	1.1 Million	Chicago, IL	93	News/Media	Negative
@CNNBusiness	1.7 Million	Globally	92	News/Media	Neutral
@Huffpost	11.4 Million	Washington, D.C.	92	News/Media	Positive
@11AliveNews	393,500	Atlanta, GA	91	News/Media	Negative
@ABC7Chicago	780,000	Chicago, IL	91	News/Media	Neutral
@barstoolsports	2.1 Million	United States	91	Large Organization	Neutral
@blackenterprise	291,000	New York City, NY	91	News/Media	Neutral
@ChicagoBreaking	170,800	Chicago, IL	91	News/Media	Neutral
@Suntimes	506,400	Chicago, IL	91	News/Media	Neutral
@chrisbrogan	339,700	Boston, MA	91	Personal	Negative
@CocaCola	3.3 Million	Atlanta, GA	91	Large Organization	Negative
@CrainsChicago	215,900	Chicago, IL	91	News/Media	Negative
@EcoWatch	202,400	Not specified	91	News/Media	Negative
@FOX10Pheonix	301,800	Phoenix, AZ	91	News/Media	Neutral
@FOXLA	244,100	Los Angeles, CA	91	News/Media	Neutral
@FOX29philly	608,700	Philadelphia, PA	91	News/Media	Negative
@FOX4	564,700	Dallas-Ft. Worth, TX	91	News/Media	Neutral
@indystar	269,600	Indianapolis, IN	91	News/Media	Neutral
@JackPosobiec	643,900	Washington D.C.	91	Personal	Negative
@MercyForAnimals	293,300	Los Angeles, CA	91	Activist Group	Negative
@nbc6	301,100	South Florida	91	News/Media	Negative
@nbssandiego	239,800	San Diego, CA	91	News/Media	Negative

Note. There were no trending agricultural influencers during these conversations. The personal accounts were typically news reporters. The news/media tweets typically had a neutral tone. The mediums primarily shared updates and the accusations against Fair Oaks Farms.

The influencer's tweets were primarily neutral (*f*=39) or negative (*f*=54) in tone. Only one of the key influencers, "huffpost" had a positive influence on consumers perceptions of Fair Oaks Farms during this time. This user encouraged consumers to view McCloskey's apology for the video footage. Tweets as such were identified as having a positive influence on consumers' perception of Fair Oaks Farms. However, influencers primarily had a negative influence during the Fair Oaks Farms conversations.

RQ 6: What were the most prominent themes on Twitter regarding the animal welfare of the Fair Oaks Farms?

The purpose of research question six was to identify the prominent themes within the tweets. The researcher wanted to determine what the consumers were saying about Fair Oaks Farms during this time. While the original search for this study resulted in 25,678 mentions of the queries, the researcher determined the required sample size to be representative of all of the tweets. According to Krejcie and Morgan (1970) for the data set (*n*=25,678) the research needed to acquire a sample size of 378 tweets in order to have a representation of the data set. Therefore, 378 tweets were randomly selected for the thematic analysis.

Using MAXQDA 2020, the researcher used an open, axial, and selective coding approach to evaluate the tweets. The researcher evaluated a sample of 378 tweets and categorized the tweets in categories and themes. During the qualitative analysis, the researcher took notes to capture initial and developing thoughts about the data. The most prominent themes are explained below.

Consumers Perceived Responsibility

Consumers believed it was their responsibility to act on the accusations. They felt as if they needed to share the information by tagging others, sharing updates, and asking others to retweet and spread the word. One user tweeted, “everyone needs to retweet this. I am disgusted.” Several Twitter users tagged news stations and individuals with personal TV shows such as Ellen DeGeneres asking them to cover this story during their next segment. A user tagged ‘@PhillyD’ asking them to cover Fair Oaks Farms on their show. This tweet said “@PhillyD you should cover the Fairlife milk and Coca-Cola animal cruelty discovery on your show.” This increased exposure and showed consumers felt responsible to share this information.

Twitter users encouraged others to ‘make this atrocity go viral’; for others to ‘please like and share’; and to ‘please read, watch, share, and educate yourself’ about the videos on Twitter. Several tweeted they would urge others to disregard their Fairlife products and urge them not to purchase any more of their products. Consumers believed “our voices are powerful” and “your voices matter.” A user even stated, “the power is in the voice of the consumer.”

Inappropriate or Vulgar Responses

Twitter users primarily discussed Fair Oaks Farms through inappropriate or vulgar tweets. Consumers described Fair Oaks Farms using adjectives such as: horrible, disgusting, sick, and scums. Additionally, the videos and accusations were described as being ‘unacceptable’ and ‘absolute trash.’ One user tweeted: “This is so insanely f*** up, how can these piles of trash @fairoaksfarms continue to operate?” Whereas another user regretted doing business with Fair Oaks Farms. This user tweeted, “This is sickening, and I'm ashamed to have ever done business with them.”

Twitter users felt personally impacted by these videos. One Twitter user tweeted, “F*** fair oak farms, f*** whoever works there, I'm glad I don't buy their product. This is disgusting and heart wrenching to watch. They need to shut this place down.” Vulgar and inappropriate language was quite prominent during these conversations. All of the vulgar and inappropriate language was used against Fair Oaks Farms, and there were no tweets advocating for Fair Oaks Farms within this theme. Users were against the company as a whole and those associated with the company. One user stated, “Fair Oaks Farms can f*** all the way off.” What a disgusting company with disgusting human being working for them. If anyone drinks @fairlife milk please stop supporting such a repulsive company.”

Impulsive Responses to Video Crisis

Most participants discussed the actions they could take in making a difference in the accusations against Fair Oaks Farms. These actions primarily consisted of consumers boycotting and avoiding Fairlife milk or any products which could potentially been produced at Fair Oaks Farms. A Twitter user suggested boycotting Fairlife milk by saying, “Disgusted by Fair Oaks Farms. I WILL NOT ever purchase Fairlife milk again. F*** you all.” Additionally, another user tweeted:

> We were deeply disturbed by the video depicting animal abuse at Fair Oaks Farms, a dairy farm that supplies a small amount of milk for fairlife. Please know that we expect our suppliers to uphold the highest standards for responsible farming and animal care.

In support of boycotting Fair Oaks Farms, a Twitter user demanded changes from both Coca Cola and Fair Oaks Farms, or they will lose their business. This tweet stated:

> #BoyCottFairOaksFarms; #BoyCottCocaCola !!! @CocaCola & @fairoaksfarms I will no longer be purchasing ANY products associated with either company UNTIL they both PROVEN none of this will NEVER

> EVER be occurring ever again. The video I saw was gross, cruel and just plain EVIL!!

In addition to consumers boycotting Fairlife milk individually, they encouraged their counterparts to do the same. Consumers also tagged grocery and retail stores asking them to take these products off their shelves. If stores still had Fairlife products on their shelves, then it was common for consumers to shame the retailers for supporting these accusations. Below is an example of these tweets:

> And I noticed yesterday Walmart still had Fairlife milk in their cooler from Fair Oaks Farm where the cows were being severely abused. This is nationwide news now- shame on Walmart or any vendor that keeps selling the milk or any other product from this company!!!! #walmart #fairlifemilk #fairoaksfarm

Another user tweeted:

> I'm disgusted. Everytime I see Fairlife Milk products in stores I equate that to the most horrific acts of animals cruelty I've ever seen. Drop this brand. There is nothing fair, about Fairlife. I will personally equate chain store with abusive practices should I continue to see these products on the shelves.

Consumers wanted Fairlife milk and Fair Oaks Farms operations shut down. A link to a petition was tweeted and retweeted across Twitter during this time. Consumers encouraged fellow users to sign the petition and shed light on accusations against Fair Oaks Farms. From June 1, 2019 -August 31, 2019, Twitter users had instant reactions regarding the videos. The Twitter users wanted to make a difference and believed impulsive reactions, including boycotting or avoiding products, would make a difference.

Understanding Consumers Expectations and Perceptions of the Livestock Industry

When discussing Fair Oaks Farms practices, several Twitter users discussed other livestock practices and how these accusations weren’t just a problem at Fair Oaks Farms,

but rather an industry problem. One user even posed the question “Is this behavior common place in the livestock industry (excluding small, local providers)?”. Additionally, another user tweeted:

> Anyone wondering about any industry that needs further transparency and accountability? Look at what it has taken to see water pollution, soil contamination, wells unfit for consumption, etc USA has a very poor record with big corporations Problems aren't on the public face'

One Twitter user discussed how high expectations can influence the entire dairy industry. They tweeted:

> We know people have high expectations of our conduct; that we can help improve animal welfare across the dairy industry. That's why we're investigating all fairlife's suppliers and have stopped using milk from Fair Oaks Farms indefinitely. Read more here: https://t.co/CRBVsNSYax'

Consumers discussed the fact these accusations weren’t just about Fair Oaks Farms, but directly about the whole industry. They said, “Anyone who thinks this "Fair Oaks Farms" scandal is anything new about the livestock industry then you definitely need to do some research friend.” Additionally, consumers made remarks about this form of agricultural production would not make it through a digital world. One user tweeted: “Factory Farming will not survive the Social Media Age @Fairlife milk just learned why”.

Several users discussed the industry in a negative lens and believed the industry was the issue despite the other factors. One user tweeted these accusations being an employee problem and not an agricultural issue. This user tweeted, “please read this response regarding the incident at Fair Oaks Farms. it is an EMPLOYEE problem, not an industry or farm problem.” Twitter users had conflicting opinions of animal welfare being a local, industry, or personal issue among animal production.

Those who believed issues within animal production was an industry problem encouraged and discussed adapting a vegan or vegetarian diet. One user encouraged others to remove animal products from their diet by tweeting:

> If ur mad about Fairlife milk being unethical and cruel maybe you should look into literally every other dairy farm and slaughterhouse in the country and go f***** VEGAN

Another Twitter user added to this conversation by stating:

> Just for clarification it's not f*** FairLife milk.. It's f*** dairy.. as in dairy cheese, ice cream, yogurt, cream in your coffee, butter, etc. PERIOD

Twitter users advocated against the use of dairy products with hashtags such as #VeganLife and discussing milk alternatives. Several users were asking questions regarding milk alternatives and vegan lifestyles. These conversations suggested consumers are searching for information regarding this way of living and were looking to be educated on removing milk-based products from their diets.

Supporting Fair Oaks Farms to Initiate Transparency

Consumers were primarily against Fair Oaks Farms; however, some users supporting the organization. Twitter users stood behind Fair Oaks Farms mission statement and believed the company would take the necessary actions to ensure the animal welfare across the farms was up to par. Kroger is standing by Fair Oaks Farms, the organization tweeted, “Kroger has a long-standing commitment to the humane treatment of animals in our supply chain. Since learning about the animal welfare concerns in this situation, we have been in close contact with the leaders of Fair Oaks Farms.”

Users advocated for Fair Oaks Farms, by sharing and referring others to McCloskey's official statement. One organization stated:

> As part of our core values of responsible farming and animal care, we, along with Fair Oaks Farms, do not condone any type of animal abuse and are taking this incident seriously. Our founder, Mike McCloskey, released this statement today: https://t.co/tJz4dE5RJI'

An additional tweet supported Fair Oaks Farms in saying:

> Head to https://t.co/yP0dROF62F for a statement from Fair Oaks Farms founder Mike McCloskey. Rest assured that this is our top priority, and we are working closely with our partners at fairlife and Fair Oaks Farms to ensure this never happens again.'

Consumers wanted others to understand the actions Fair Oaks Farms was taking and assured them "Fair Oaks Farms is conducting a thorough investigation into the matter." Additionally, consumers tweeted they felt as if Fair Oaks Farms is taking proactive actions. These users stated:

> More information on proactive actions @fairlife has taken is outlined on the @fairlife website: https://t.co/aXEzHFKkLK. We fully support &respect the proactive approach that @fairlife &; Fair Oaks Farms have taken.

Once consumers had direct information from Fair Oaks Farms, some felt encouraged to support them and to ensure others were doing the same. Consumers saw the actions Fair Oaks Farms was taking and believed "owners make mistakes, they will make a wrong into a right" if we give them the chance to implement the necessary changes. However, Twitter users needed the transparency, communication, and efforts directly from Fair Oaks Farms to rest assured in their support.

Sentiment Analysis

RQ 7: What was the overall sentiment of tweets regarding the video footage of Fair Oaks Farms and the dairy industry?

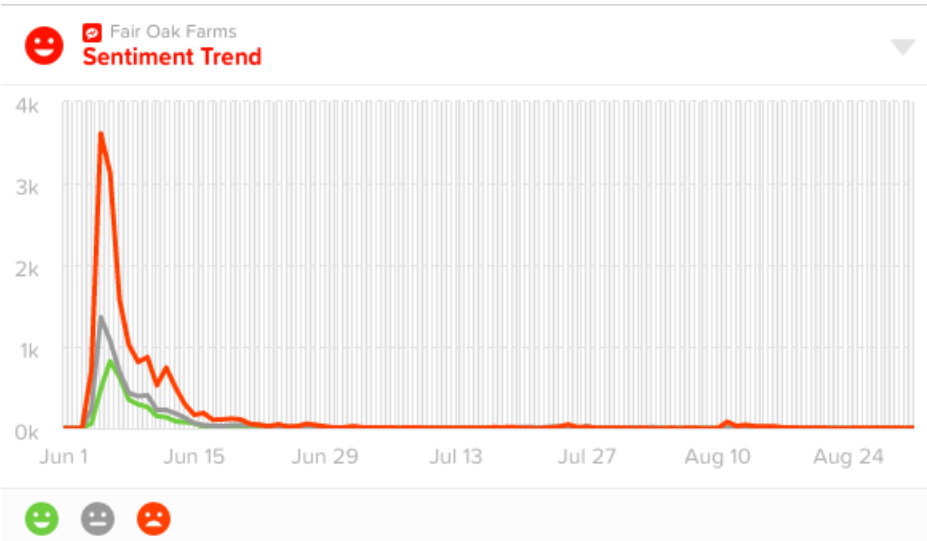
Research question seven sought to determine the tone in which the users discussed Fair Oaks Farms. The researcher wanted to determine if consumers had a positive, neutral, or negative view of Fair Oaks Farms once the videos were released. To answer this research question, the researcher hand coded all 378 randomly sampled tweets to determine if they were 1=positive, 2=neutral, or 3= negative in tone. While it is important to study what consumers were saying during this time, it is more important to understand whether the consumers opinions and conversations about Fair Oaks Farms was in a positive or negative manner.

The sentiment of each of the sampled tweets was recorded as positive, neutral, or negative. While Social Studio has the capability of a sentiment analysis, the researcher hand coded the tweets to ensure accuracy and to ensure vague, sarcastic, or passive language was recorded correctly. However, the researcher compared the sentiment analysis to Social Studios sentiment analysis.

The tweets predominately had a negative tone in regard to Fair Oaks Farms. Figure 5 shows the spike in conversations on June 3rd, the day the first video released. The red line represents Social Studio's code of negative sentiment. This line continues to be higher on the figure than the positive (green) or neutral (grey) line during the timeframe.

Figure 5

Social Studio's Sentiment Analysis



Note: Positive sentiment is green, neutral sentiment is grey, and negative sentiment is red.

Discrepancies between Social Studio and a human coder were found as Social Studio coded 53 (14%) tweets as positive whereas the human coder coded 34 (9%) tweets as positive. The codes for both the negative and neutral codes were also differentiated from Social Studios sentiment codes. Social Studio coded 97 (26%) of the tweets as neutral when the human coder coded 81 (21%) of the tweets as neutral. Of the negative tweets, Social Studio coded 228 (60%) tweets as negative and the human coder coded 263 (70%). An example of a tweet in which the researcher coded negative but Social Studio coded positive is: "Lmfao at people who take a pic flipping off fairlife milk in the store but still consume dairy. Y'all realize you're part of the problem right?" This tweet mentions laughing, which could be why Social Studio coded this tweet as positive, but the tweet can be read in a sarcastic lens to realize this tweet is not positive, but negative in tone. Results of both the Social Studio and human coded tweets are reported in Table 9.

Table 9

Sentiment of Overall Tweets Coded by Social Studio and Human Coders (n=378).

	Social Studio		**Human Code**	
Sentiment	*f*	%	*f*	%
Positive	53	14%	34	9%
Neutral	97	26%	81	21%
Negative	228	60%	263	70%

RQ 8: What trending words and hashtags elicited a positive and negative response from consumers on Twitter regarding Fair Oaks Farms and the dairy industry?

The purpose of research question eight was to determine if any keywords or hashtags prompted a positive or negative reaction from consumers. Social Studio provided the trending words (*n*=50) and trending hashtags (*n*=50). The researcher coded each keyword and hashtag based on the context of the word or hashtag. The researcher evaluated the context of the word or keyword to determine if it was used in a positive, neutral, or negative tone. The researcher evaluated the frequencies of the codes.

The trending words (*n*=50) were primarily negative (14%) regarding Fair Oaks Farms. There were not any trending words which elicited a positive response from consumers, and few neutral (14%) words in tone. The top three trending words were Fair Oaks Farms, milk, and investigation. These top three words were coded negative as having a negative tone regarding Fair Oaks Farms. Table 10 shows sentiment of the trending words.

Table 10

Sentiment of Trending Words (n=50)

Sentiment	***f***	**%**
Positive	0	0%
Neutral	7	14%
Negative	43	86%

The top five trending hashtags were #dairy, #animalwelfare, #vimeo, #dairyfree, and #dairyfarm. Three of the four trending hashtags were coded as negative (86%), these included #dairy, #animalwelfare, #dairyfree, and #dairyfarm. Of the top five, #vimeo was the only one not coded as negative. #vimeo was coded as having a neutral tone. Vimeo is a video distribution site. Therefore, this hashtag was primarily just paired with a video to disseminate the link. Table 11 shows the sentiment values of the fifty trending hashtags.

Table 11

Sentiment of Trending Hashtags (n=50)

Sentiment	***f***	**%**
Positive	3	6%
Neutral	1	2%
Negative	46	92%

The trending keywords and hashtags primarily elicited a negative tone regarding Fair Oaks Farms. Of the trending conversations, these words and hashtags have the ability to elicit more or less conversations. Additionally, these trending words and hashtags can influence consumers judgement on Fair Oaks Farms.

RQ 9: What themes elicited a positive and negative response from consumers on Twitter regarding Fair Oaks Farm and the dairy industry?

The purpose of the sentiment analysis was to investigate if the publics' tweets were positive, negative, or neutral regarding Fair Oaks Farms. Due to the convergent mixed methods approach of this study, the researcher already had the themes organized in MAXQDA2020. Codes were assigned to each tweet rather they were 1=positive, 2= neutral, or 3=negative in tone. The codes were collected for each theme to determine whether the theme elicited a positive, neutral, or negative response regarding Fair Oaks Farms.

The only theme which elicited a positive response was "supporting Fair Oaks Farms to initiate transparency." This theme primarily discussed Fair Oaks Farms in a positive (97%) manner, minimum discussion in a neutral (2%) manner, and no tweets discussed Fair Oaks Farms in a negative manner within this theme. This theme was primarily tweets from users who believed in Fair Oaks Farms and their practices. These users believed Fair Oaks Farms would make things right. This was the only theme to discuss Fair Oaks Farms in a positive manner.

Both themes "inappropriate or vulgar responses" and "impulsive responses to video crisis" only discussed Fair Oaks Farms in a negative (100%) manner. There were not any positive or negative tweets about Fair Oaks Farms within these two themes. "Understanding consumers expectations and perceptions of the livestock industry" primarily talked about Fair Oaks Farms negatively (96%), neutrally (2%), and positively (2%). Furthermore, the theme "consumers perceived responsibility" sentiment dispersed more than the others. The sentiment for this theme is positive (2%), neutral (35%), and negative (63%).

Summary

The purpose of this chapter was to adequately answer the nine identified research questions. Based on the findings, consumers have differing responses to the accusations on Fair Oaks Farms. These differencing responses have led to adverse actions regardless if consumers were supportive or against Fair Oaks Farms during this time. Several consumers boycotted and avoided Fairlife and Fair Oaks Farms products; however, some backed Fair Oaks Farms and believed in their transparency mission.

The peak of Fair Oaks Farms conversations began June 3rd (the day the first video was released) and constantly continued over the next two months. Collectively, the tweets, retweets, comments, and post likes had the potential to reach 63,112 Twitter users. Twitter users participating in these conversations were primarily female, between 15-24 years old, and were from Illinois. News stations and news reporters were primarily the key influencers of these conversations. Additionally, there were no groups for agricultural practices with great influence. The conversations about Fair Oaks Farms had a negative tone. This suggests consumers' perception of Fair Oaks Farms negative.

Consumers were outraged by the videos and felt as if they needed to share the videos, disseminate the information to the friends and followers, and take the necessary actions to show Fair Oaks Farms how angry they were. Using impulsive and inappropriate language, users boycotted all Fair Oaks Farms products and encouraged retail stores to pull all of these products off of the shelves. Twitter consumers understand their voice is powerful in crisis management and wanted to use their voice to make a difference among the agricultural industry. Consumers believed this was not just an issue among Fair Oaks Farms but among the entire livestock industry.

CHAPTER 5. CONCLUSIONS AND RECOMMENDATIONS

This study sought to determine how online media, specifically Twitter, impacted the publics' opinion of Fair Oaks Farms and the welfare of their animals after ARM Investigators released videos of alleged poor animal welfare. In these videos animals were allegedly mistreated, abused, transported to veal farms, and employees were reportedly intaking illegal drugs. The videos were released on June 3rd and June 13, 2019. This study sought to understand how consumers were participating in online media and to determine the public opinion of Fair Oaks Farms from June 1- August 31, 2019. The queries used in this study were @arminvestigatio, @fairoaksfarms, fair oaks farms, fair oak, fairlife, animal rights, calves, arm, animal abuse, and fof. Each of these queries were paired with Fair Oaks Farms to ensure the conversations were directly associated with the Fair Oaks Farms discussions. The researcher used these queries to conduct 1) a social analysis and 2) a sentiment analysis to uncover the impact the videos on social media influenced individuals' opinions about Fair Oaks Farms. The following research questions were used to guide this study:

RQ 1: What were the demographics of Twitter users who engaged in the Fair Oaks Farms discussions?

RQ 2: How many total mentions of the identified queries regarding Fair Oaks Farms occurred across Twitter?

RQ 3: What was the Twitter reach regarding the ARM videos of Fair Oaks Farms?

RQ 4: What were the trending hashtags regarding the videos of animal abuse of dairy cows and Fair Oaks Farms on Twitter?

RQ 5: Who were the key influencers regarding the conversations about Fair Oaks Farms on Twitter?

RQ 6: What were the most prominent themes on Twitter regarding the animal welfare of the Fair Oaks Farms?

RQ 7: What was the overall sentiment of tweets regarding the video footage of Fair Oaks Farms and the dairy industry?

RQ 8: What keywords and hashtags elicited a positive and negative response from consumers on Twitter regarding Fair Oaks Farms and the dairy industry?

RQ 9: What themes elicited a positive and negative response from consumers on Twitter regarding Fair Oaks Farms and the dairy industry?

Animal welfare has been reported as being a controversial topic (Font-i Furnols & Guerrero, 2014). Gil de Zuniga et al., (2012) suggested during any controversial topic or issue, social media is often the first source of information on the given topic. Therefore, it is critical for agriculturalists to develop accurate messages about animal welfare (Kubitz, et al., 2013). Consumers do not have a primary resource for obtaining information regarding animal welfare (McKendree, et al., 2014). The source for this information relies on public perceptions of animal welfare despite the level of knowledge.

To obtain information, consumers have progressively moved toward online communications as their primary source for information on animal welfare and practices (Croney, et al., 2012; McKendree, et al., 2014). If consumers are utilizing social media to obtain information about agricultural practices, then it is vital the industry is accurately represented both online and off. Social media provides agriculturalists the unique

opportunity to reach a large number of consumers regarding animal welfare (Hotzel, et al., 2017).

Kubitz, et al., (2013) suggested agriculturalist could "help the agricultural industry maintain a positive image and reputation with the general interest media and their audiences" (p. 92). However, anti-agricultural groups including HSUS, PETA, and ARM Investigators make it challenging to maintain a positive image. These groups often portray agricultural practices in a negative manner and attempt to persuade consumers to refrain from supporting the industry.

In 2019 ARM Investigators released two videos portraying animal neglect at Fair Oaks Farms. Upon the release of these videos, consumers began instantaneously discussing and disseminating information about Fair Oaks Farms. These discussions changed consumers' perceptions about Fair Oaks Farms and the livestock industry.

In the realm of agricultural communications, researchers and practitioners have suggested it is important for agriculturalists to develop accurate messages about animal production (Kubitz, et al., 2013) and to engage in conversations about these topics with consumers. By creating accurate messages targeted towards the everyday consumers, online conversations have the opportunity to play a role in helping consumers make educated decisions about their food and the production practices of their food. Particularly, communicators need to determine and understand the effects online conversations have on the publics' opinion of the agricultural industry when a company, or agricultural practice, is shown in a negative manner. There is much more research needed to understand the role online communications has on the publics' opinion about the agricultural industry in order for agriculturalists to be proactive during these communication crises. Future research

should include prior and post perceptions of Fair Oaks Farms, the affects a communication crisis has on a business's revenue, qualitative studies to determine actual sentiment, and differences within other social media platforms. The findings of this study show 1) how Twitter users discuss the industry during a crisis, 2) suggest future research, and 3) provide insights on how future crises should be handled.

Social Analysis

The social analysis sought to analyze how consumers were discussing Fair Oaks Farms with one another on social media. Utilizing Social Studio, the researcher "listened" to these online conversations to determine who was talking about Fair Oaks Farms, their influence in these conversations, the volume of the conversations, and what they were saying during this phenomenon. The following queries were used to collect the tweets about Fair Oaks Farms: @arminvestigatio, @fairoaksfarms, fair oaks farms, fair oak, fairlife milk, animal rights, calves, arm, animal abuse, and fof. These queries were used to conduct the social analysis.

The social analysis was divided into two phases: phase 1 (quantitative analysis) and phase 2 (qualitative analysis). Creswell and Creswell (2018) suggest this approach when using a convergent mixed methods approach. In a convergent mixed methods approach, the data should be collected at the same time yet analyzed separately (Creswell & Creswell, 2018). Once analyzed, the results should be merged and interpreted.

Phase 1 (Quantitative Analysis)

Using the queries, specified timeframe, and the location barrier Social Studio collected all tweets pertaining to this phenomenon. This search accounts for any mentions

that include these terms or phrases on public Twitter accounts. This query search resulted in 25,678 tweets. All tweets were analyzed during phase 1. A peak in conversations occurred on June 4. This peak suggests the conversations were spurred by the videos released by ARM Investigators. Twitter conversations had the potential to reach 63, 112 people. This reach occurred through tweets, retweets, comments, and likes on Twitter. While users may have not decided to engage in these conversations, they were still exposed to the content.

Demographics were collected to help identify who the users are who were engaging in these conversations. Social Studio collects several demographics from public users including age, identified gender, and location. Twitter does not require users to identify this information on their profile; however, some users do provide some of this information on their profile and others provide all demographics on their profiles. Those who participated in these conversations were primarily female, between the age of 25 and 34, and lived in Illinois.

Of those who participated in the conversations about Fair Oaks Farms, 16,615 specified their identified gender on their profiles. Females (*f*= 11,112, 67%) predominately participated in these conversations in comparison to their male (*f*=5,502, 33%) counterparts. This suggests females are more likely to show compassion to animal welfare and advocate for the treatment of animals.

The majority of the conversation participants in this study were between 25-34 and 35-44 years of age. Majority of those who contributed to the discussions were middle aged with the older (65+) and younger (15-24) ages contributing less often. A total of 1,155 users specified their age on their Twitter profiles.

All of the 25,578 tweets were posted in the United States. However, some users (*n*= 8, 314) specified which state they are located in. Per the geographic filter, the five sates best represented in this study were Illinois, Indiana, Georgia, Texas, and California. Half (*n*=25) of the states in the United States had representation in the online conversations.

It is important to not only understand the volumes of these conversations but also what these conversations consisted of. The top five trending hashtags were directly relevant to the dairy industry. A hashtag serves as a medium to rapidly share information. Utilizing a hashtag, users can search the trending hashtag to analyze exactly what others are saying about the word or phrases. The top five trending hashtags were #dairy, #animalwelfare, #vimeo, #dairyfree, and #dairyfarm. The trending hashtags correlate with the qualitative findings users not only associate these videos with Fair Oaks Farms but as a representation of the entire industry.

Discussants have the potential to influence how others perceive Fair Oaks Farms. Influencers drive and rapidly disseminate information. Identifying these influencers provides context to the analysis to understand the harness behind the influence. News stations (*f*=65, 67%) and reporters had the greatest influence during the Twitter conversations. Of the key influencers, there weren't any groups for agricultural practices present in the conversations. However, there were groups against agricultural practices present during these conversations. This could indicate anti-agricultural groups have a larger presence on social media than agricultural groups do.

If anti-agricultural groups have a larger influence on consumers than groups for agricultural practices the information could be skewed. This could suggest consumers are not provided an accurate representation of agricultural practices. Groups such as PETA,

HSUS, and ARM Investigators often paint an inaccurate picture of the agricultural industry. This includes alleged animal abuse, malnourishment, and animals not being adequately cared for. Agricultural groups must be present and influence consumers with their life on a farm, how they care for their animals, and how they ensure their animals are provided the upmost care.

While agricultural groups were not key influencers during these conversations, Fair Oaks Farms was not even identified as being one of the top key influencers. This meaning Fair Oaks Farms had an influencer score less than 80 during this crisis. The influencer score could have been because Fair Oaks Farms does not have a large following or the farm did not have a presence on Twitter during these conversations. Since Fair Oaks Farms did not have influence on these conversations, this data suggests their story and their farm was not showcased in an appropriate manner.

Phase 2 (Qualitative Analysis)

Of the 25,678 tweets collected during this study, a random sample of 378 tweets were identified for phase 2 of data analysis. A thematic analysis was conducted on the sample of the 378 tweets. The researcher followed Braun and Clarke's (2006) thematic analysis framework. The researcher utilized MAXQDA 2020 to organize, scribe notes, and format the tweets during the thematic analysis.

Overall the Twitter users were extremely furious at Fair Oaks Farms upon the release of ARM Investigators videos. In analyzing the various ways consumers discussed Fair Oaks Farms during this time five themes emerged. These five themes are:

- Theme 1: Consumers perceived responsibly
- Theme 2: Understanding consumers expectations and perceptions of the livestock industry

- Theme 3: Supporting Fair Oaks Farms to initiate transparency
- Theme 4: Inappropriate or vulgar responses
- Theme 5: Impulsive responses to video crisis.

Theme 3 is the only theme to be identified as being for Fair Oaks Farms, the other four themes were against Fair Oaks Farms. The other four themes sought to ensure the necessary steps were taken for Fair Oaks Farms to reap the consequences of these videos. Consumers boycotted and avoided all Fair Oaks Farms products while encouraging their peers to do the same (theme 5).

In theme 1, consumers felt as if they should share information, provide updates, and influence other consumers during these conversations. Consumers wanted to 'make this atrocity go viral' by asking others to 'please read, watch, share, and educate' their selves about the videos. To these consumers, the influence derived from the power in their voices and understood "the power is in the voice of the consumer."

Consumers have high expectations of the livestock industry. However, during this study Fair Oaks Farms did not meet these expectations. Consequently, the videos skewed consumers perceptions of Fair Oaks Farms in a negative manner as well as the industry as a whole. During these conversations consumers felt as if the videos represented the practices among all farms and the livestock industry. These perceptions of the industry have prompted consumers to choose a vegan lifestyle; furthermore, encouraging others to also chose this lifestyle.

While consumers did not agree with these videos and wanted Fair Oaks Farms to ensure the safety and welfare of their animals, some consumers supported Fair Oaks Farms. Users, including Kroger, supported the farm and believed they would take the steps to showcase transparency and how well their animals are taken care of. These consumers believed in

Fair Oaks Farms mission statement and were being patient with the farm to act upon their mission.

In opposition to supporting Fair Oaks Farms, consumers were outraged with the videos and used vulgar and inappropriate responses on Twitter. Utilizing profanity and degrading language, consumers negatively portrayed Fair Oaks Farms. Adjectives used to describe Fair Oaks Farms included: horrible, disgusting, sick, and scums. These outraged feelings led to consumers taking impulsive actions in regard to the videos. Consumers demanded retailers take all Fairlife and Fair Oaks Farms products off of their shelves or they would lose customers. Consumers wanted others to take similar actions.

The findings of phase 2 indicate consumers understand their role in animal welfare and will take the necessary actions to ensure the agricultural industry is using humane practices in their operations. Consumers voices are powerful and do influence others during a crisis.

Sentiment Analysis

The purpose of the sentiment analysis was for the analyst to conclude how consumers were discussing Fair Oaks Farms during this time through Twitter. A sentiment analysis is a textual study analyzing peoples' opinions, sentiment evaluations, attitudes, and emotions in writing language (Liu, 2012). In crisis communication, it is crucial to understand how users are discussing the crisis on social media to determine a plan to combat the conversations. Therefore, it is important for agriculturalist to understand how consumers were discussing Fair Oaks Farms after the videos were released. Determining how consumers were discussing them will allow Fair Oaks Farms as well as other agricultural groups to design a strategic plan for future crisis communication efforts.

Overall, it is clear participants discussed Fair Oaks Farms in a negative manner. A sentiment analysis was conducted on the key influencers, trending hashtags, trending words, and the random sample of tweets. Each key influencer, trending hashtag, trending word, and tweet were identified as have a positive, neutral, or negative tone regarding Fair Oaks Farms. The researcher evaluated the attitude, feelings, and emotions of the Twitter content. Collectively, the variables were negative in tone. Social Studio provides sentiments for the Twitter content. However, an analysis was done between the two coding's and discrepancies were found.

Social Studio identified 100 key influencers during the Fair Oaks Farms conversations. Key influencers are provided a score (0-100) based on the number of followers and the reach of their posts. Of the key influencers, it is important for researchers to understand how influencers are guiding their followers. Influencers have the opportunity to guide their followers in a positive, neutral, or a negative way based on the manner in which they discussed Fair Oaks Farms. Majority of the influencers were news stations and reporters (*f*=65, 67%). News reporters and journalist attempt to disseminate information in a neutral way without expressing their opinions on the matter (Go, et al., 2009). Therefore, almost half of the key influencers had a neutral (*f*=49, 40%) influence during the discussions about Fair Oaks Farms. Additionally, influencers had a negative (*f*=54, 56%) and a few had a positive (*f*=4, 4%) influence from their tweets.

In this study, the sentiment of the tweets were analyzed in two ways. First, Social Studio provided sentiment for each tweet and coded 60% of the content (*f*= 228) as negative compared to the 70% (*f*= 263) which human coded as negative. These discrepancies in how Social Studio coded the content and how the human coded the tweets

may be the interpretation of the content. Differences between human coders and computer coding has been noted in the past as computers are not designed to interpret sarcastic, humorous, and passive language as humans are. Overall, a vast majority of the tweets (*n*=378) about Fair Oaks Farms were negative in tone. This suggests consumers perceptions of Fair Oaks Farms were negative during this time.

Similar to the key influencers and the overall tweets, the trending hashtags and keywords were also negative in tone during this time. Of the trending words (*n*=50) a vast majority of them were had negative (*f*=43, 86%) attitudes, feelings, or tones. Additionally, the trending hashtags had a negative tone (*f*=46, 92%) when discussing Fair Oaks Farms.

The sentiment of this data suggests consumers had a negative perception of Fair Oaks Farms from June 1- August 31, 2019. Of these tweets, consumers were outraged by the videos and utilize social media to share their outrage about the farm. Future research should be done to determine how consumers discussed Fair Oaks Farms prior to the release of the videos. Additional research should be conducted to determine if consumers perceptions of Fair Oaks Farms has changed into a positive manner.

Recommendations

Social Media

Communicational crises are inevitable; however, the findings in this study suggest businesses, anti-agricultural activist groups, agricultural activist groups, and the media will utilize social media in the event of a crisis. Therefore, it is crucial to be proactive before a crisis occurs. Although, the next crisis is impossible to predict, businesses, agriculturalists, and the media should implement a strategic plan to ensure their information is factual rather

than just inferences (Gibson, 2014; Veil et al., 2011). In addition to a strategic plan, a social media presence is important for these groups during a crisis.

The agricultural industry has adapted to the use of social media over the years. Twitter is a place for agriculture - whether it is putting a face on producers, for dialogue between ag- and non-ag individuals, to diffuse myths about agriculture, crisis management, quick communication with consumers, or simply to showcase their day-to-day life (Payn-Knoper, 2009). This study supports the continued use of Twitter to disseminate agricultural information. The next logical step is for businesses, agriculturalists, and the media to share factual information to diffuse myths about agriculture and provide positive information to manage crises appropriately. Additionally, this study supports the need for a continued social media presence through the duration of the crises.

Agricultural organizations should consider hiring social media interns and/or social media relation manager to actively manage their accounts. Social media interns can instantly engage with consumers, answer questions, and provide new content to highlight the agricultural industry. Interacting with consumers can be challenging as it should be done instantaneously, especially in the midst of a crisis. Offering such internships will provide younger generations the opportunity to learn how to educate others, utilize social media in a professional manner, and be the voice of the organization.

To better plan for a communication crisis and a social media intern, the company should develop a social media strategic plan. This plan should provide a summary of everything a social media page is going to accomplish. Each post, comment, and share should have a direct purpose on the page. A social media strategic plan allows the organization to determine if their actions are working or if they need to adjust their plan to

better fit their mission. Each organization should have a social media strategic plan and should revisit this plan quarterly. If a communication crisis were to occur, then a new social media strategic plan should be developed. This will ensure the company is handling the crisis in an appropriate manner.

Activist groups (i.e PETA, HSUS, ARM) will continue to advocate for their cause. While we, as agriculturalists, cannot change their efforts we can make our own efforts to advocate and educate for the industry. One way for agriculturalists to continue to highlight their practices is directly showcasing them on social media. The findings of this study suggest consumers did not believe this was only an issue at Fair Oaks Farms, but the entire industry. The researcher recommends agriculturalists should utilize social media to tell their farm or ranches story. This could be done through videos, virtual tours, daily schedules, and pictures of the operations. One way to be transparent is to keep an accurate representation of the industry online.

The Media

The findings of this study suggest the media played an essential role in disseminating the information about Fair Oaks Farms. Due to these findings, the researcher recommends the utmost attention be placed on educating the media. Educating the media could include partnerships, hands on experiences, tours, or workshops.

The main objective of the FFA is to "develop its members qualities of leadership, character, scholarship, cooperation, and citizenship through agricultural education" (Reuwee, 2002). One of FFA's core values is to continually educate the public about agriculture. This is often executed in community service events, fundraisers, outreach programs, and communicating with the public. Local FFA chapters could partner with their

local news stations and personnel. Furthermore, this would provide the media with local content to cover and to enhance their agricultural coverage. This partnership could also be a Supervised Agricultural Experience for FFA members. The same partnerships could be bridged between the media and 4-H clubs as their goals are similar to the FFA chapters.

Based on the researcher's findings, we recommend efforts being placed in educating the media. It is impossible for journalists to have knowledge of every industry they cover (Cartmell, 2001). Of the 100 key influencers, 67% of the influencers were affiliated with a news station. The news affiliates primarily shared updates and information regarding the accusations and investigation. If news stations and reporters are simply disseminating the provided information, then it is recommended agriculturalists begin providing information about the industry whether in a crisis or not. In future communication crises, agriculturalists should have a loud presence. This should include sending information and agricultural updates to the media. While consumers voices are powerful, producers' voices should be impactful. The stories and the image of the industry online modify the publics' perceptions.

One way communicators can educate and have direct communication with the media is through a multimedia kit. A multimedia kit is an all-in-one way to disseminate content related to an event, marketing initiative, or in a communication crisis. This kit is designed to instantaneously share information regarding a company or organization, an issue, or to educate others. This kit allows for one to share this information when they may not have the time or resources to build a kit during a crisis. This study suggests Fair Oaks Farms, along with other agricultural organizations, should develop a multimedia kit and have it ready to share with the media in the event of a crisis.

A multimedia kit should be designed with the intent of showcasing the organizations' mission, the organizations' contact information, and a media release. The multimedia kit should be in a digital format (on a website), social media format, and a hard copy to be ready to disseminate in the most appropriate manner. Additionally, this kit could be used to combat fake news against a company or organization.

This study suggests the media played a vital role in the conversations about Fair Oaks Farms during this time. Therefore, workshops, trainings, and classes should be held for the media to better understand agricultural practices. Workshops could be offered for media personal to have hands on experiences on a farm to understand the what, why, and how a farm operates. Farmers and ranchers showcasing their everyday lives to the media and consumers will better help them understand the precautions agricultural producers continuously take.

In addition to farmers and ranchers opening the opportunity for the media to have farm like experiences, field trip, and agritourism sites can offer this opportunity. Opening up these locations and having video coverage promotes agritourism and exposes consumers agricultural practices. Social exposure says consumers select content based on their interests (Klapper, 1960). Covering agricultural locations on the news could spark interests in consumers which would provoke them to expose themselves to this information in the future. Exposure could be the most effective way to influence consumers perceptions of the industry in a positive way.

Agriculturalists

The results of this study showed agricultural groups were not active during these conversations. Therefore, the activist's voices were heard, and agricultural groups were

not. In the future, advocates for agricultural practices must be active on social media in order to combat the voices of those against agricultural practices. Agricultural groups should have disputed the claims about the industry and educated consumers on the practices occurring on farms rather than ignoring the situation.

In this study, Fair Oaks Farms was not an active participant during the conversations of the videos. Therefore, the inaccurate information being disseminated was not being disputed. The researcher suggests Fair Oaks Farms formulate a social media strategic plan in the future to handle these situations. This plan should consist of an analysis of this communication crisis and improve the next communication crisis, if there is one. Fair Oaks Farms should have a social media plan, news station and personnel plan, and a plan to represent their farm in an appropriate manner in the future. The researcher believes Fair Oaks Farms should use the information provided in this thesis to identify the necessary steps to combat any future crisis. Additionally, the farm should utilize this thesis to understand the power of social media and the importance of the media.

Other agricultural groups and organizations should utilize the information provided in this study to protect their image. The findings in this study indicate the traditional news media is not dead despite the rapid adaption of social media. Therefore, agricultural groups should integrate traditional media within their communication efforts. Traditional media could include radio stations, news stations, and newspapers. Organizations should be prepared to handle a crisis and be active participants in the discussions.

When a crisis occurs, it creates the need for information to be shared with key stakeholders (Coombs, 2012). One misconception made by many companies and organizations is to the thought of a crisis cannot happen to them; however, crises happen

every day and all organizations should be prepared with a crisis communication plan (Barton, 2001). A crisis communication plan can aid in preparing for a potential crisis and can enable the organization to take proper measures during the state of a crisis. Previous literature suggests a crisis communication plan should have a crisis management team to share key information such as a list of all potential audiences, contact information for stakeholders and the media, key messages, method of delivery, and identify trustworthy media sources (Ferrante, 2010; Coombs, 2007). This plan is designed to combat a crisis in an appropriate and timely manner.

In regard to recommendations to the McCloskey's, Fair Oaks Farms employees, and the farms communication personnel this study suggests recommendations to handle any future crisis similar to this. In the future, honesty, compassion, and transparency is crucial. Sharing emotions and understanding consumers feelings towards the issue could guide the communication efforts during a crisis. The findings in this study suggest how outraged consumers are during accusations of poor animal welfare. Accusations of poor animal welfare provides the opportunity for agriculturalists to showcase trainings, certificates, and audits employees complete in order to be employed by Fair Oaks Farms. Showcasing these requirements and the laws under FARM could help consumers understand the expectations Fair Oaks Farms has for their employees.

The recommendations of this study implicate partnerships with the media, a social media presence, and the community. Building these partnerships could allow for external personals to voice their support for the farm and their practices. During a future communication crisis, communication is crucial to upholding the farms mission for transparency. Therefore, stopping communication with consumers, the media, and online

platforms proved to not be a solution in combatting fake news and the accusations against Fair Oaks Farms.

In the future, commenting and engaging in these controversial conversations could benefit the farm by allowing Fair Oaks Farms voice, mission, and practices to be showcased in a positive manner. The researchers' recommendations are for a social media relation manager to consistently engage in these conversations. This could be done by referring digital communication users to the farm's website, YouTube video, or the multimedia kit. A social media relation manager should provide updates to debunk fake news and accusations.

If Fair Oaks Farms were to be in a similar situation in the future, an active social media presence, external partnerships, and direct communication could allow the farms' mission and practices to accurately be portrayed. Fair Oaks Farms was founded on "transparency and for consumers to have all of their questions answered" (Fair Oaks Farms, 2019b). In order to adhere to their mission, the farm should be engaged in these conversations and answering consumers questions and concerns despite how challenging the conversation may be. While ARM Investigators accusations negatively influenced Twitter users' perceptions of Fair Oaks Farms, these perceptions could be influenced in a positive manner. Fair Oaks Farms can change the narrative by creating an online presence, developing accurate content, and sharing the day-to-day farm activities.

At the completion of these thesis, Fair Oaks Farms has not provided Twitter content since August 2019 (Fair Oaks Farms, 2020). This thesis was produced at almost a year after the accusations and this study suggests Fair Oaks Farms should begin to rebuild their brand and social media presence.

Future Research

The results show consumers perceptions of Fair Oaks Farms are negative, but we do not know consumers prior perceptions or their perceptions since Fair Oaks Farms has enforced new animal welfare practices. Future research should entail investigating what consumers perceptions of Fair Oaks Farms were prior to the videos being released. Researchers should examine the differences to determine how the perceptions changed during this time.

The feelings, thoughts, and attitudes were determined through the sentiment analysis in this study. However further qualitative research should be done to determine consumers perceptions beyond Twitter. As online platform, users feel more comfortable saying things online which they would not in person. Differing research methods could provide insight to differing positions about Fair Oaks Farms.

This study only analyzed Twitter discussions. Tweets are typically shorter and straight to the point in comparison to other social media platforms. Therefore, additional research should be conducted to determine differing conversations based on social media platforms. Researchers should analyze the conversations on Facebook, YouTube, and Instagram about Fair Oaks Farms.

The Fair Oaks Farms Twitter conversations had the potential to reach 63,112 people through tweets, re-tweets, comments, and likes. Influencing this many people could potentially affect their business. In this study, consumers were boycotting and asking retailers to remove Fair Oaks Farms products from their shelves. These conversations could have affected their sales and profitability. Therefore, future research should determine how a communication crisis could influence a company business model such as Fair Oaks Farms from 2019-2020.

Implications

This thesis utilized social judgement theory, framing theory, and selective exposure as the theoretical framework of this thesis. Combining these three concepts suggest the internal and external factors online content has on consumers' perception of the agricultural industry. Social judgement theory and selective exposure were the most impactful theories for the results in this study. These two concepts suggested both the external (exposure) and internal (judgement) factors which influenced Twitter users' opinion of Fair Oaks Farms.

In this study, Twitter users may or may not have been exposed to the videos about Fair Oaks Farms based on their interests and beliefs (Klapper, 1960). Therefore, based on consumers interests, Twitter users' selected mediums during this time which supported their standpoint on agricultural practices and avoided mediums which argued their standpoints according to Klapper (1960). This concept suggests those who are against agricultural practices were more likely to be exposed to ARM Investigators videos compared to those who support agricultural practices. In hindsight, those against agricultural practices were more likely to be exposed to the information; therefore, they were primarily the ones engaging in the conversations about Fair Oaks Farms.

While selective exposure emphasizes if Twitter users' saw the videos, social judgment theory suggests whether individuals accepted or rejected the message about Fair Oaks Farms. Depending on how important agricultural practices and animal welfare were to Twitter users influenced if they accepted to rejected information about Fair Oaks Farms (Sherif & Holvand, 1961). Twitter users who accepted the information were more likely to experience a shift in their perceptions of the agricultural industry and Fair Oaks Farms according to social judgment theory (Sherif & Holvand, 1961). Whereas, those who

rejected the information were more likely to continue ‘scrolling’ through their Twitter timeline and not engaging in the content or experiencing a change of perception.

Selective exposure and social judgement theory combined contribute to the literature by showcasing the effects the two concepts have on Twitter users’ perceptions of the agricultural industry and in the realm of communications. The findings of this study suggest the two theories combined showcase the requisite of considering both external and internal factors which shape public opinion. Previous communication research has utilized selective exposure or social judgment theory as separate frameworks but not combined with one another. Combing these theories allows for future researchers to use the framework to understand how consumers view, react, and judge social media content.

In the realm of communication research, this study supports other scholar’s work stating traditional media continues to be depended on (Ruth-McSwain, 2008; McQuail, 2010). Traditional media continues to be an informational source for the public despite the topic. Additionally, this study adds context to the literature by showcasing the negative effects social media can have on public opinion, particularly regarding the agricultural industry. To combat the negative perceptions of agriculture on social media, the findings in this study support having professional development and social media personnel to manage organizations social media sites.

Educating the public about agriculture can occur both online as well as offline. The findings in this study encourage agricultural educators in classrooms and non-traditional educators to continue teaching agricultural practices. The findings in this study provide evidence of a disconnect between consumers and the practices within the industry. The

practical steps outlined in the conclusions of this study provide teaching opportunities for professional development along with potential curriculum to teach in secondary education.

The conclusions of this study provide proactive measures to take in the midst of a crisis; furthermore, the conclusions in this thesis suggest ways to encounter fake news regarding a company or organization. These conclusions should be published in the literature for scholars, researchers, and practitioners to provide logical steps to disseminate information regarding the agricultural industry and the professional organizations within the industry.

In conclusion of the information provided in this thesis, consumers continue to adapt the use of online communications for information, education, entertainment, and advocacy on various topics. One of the more prominent topics consumers are utilizing social media for is animal welfare and practices (Croney, et al., 2010; McKendree, et al., 2014). The prevalence of animal welfare content shared on social media provides opportunities as well as challenges for the agricultural industry.

Fair Oaks Farms, and many other organizations, have recently been faced with the controversy of animal welfare on social media. In the future, it is impossible to predict activists actions against agricultural practices, accusations on the industry, and negative comments from consumers. However, we, as agriculturalists, can better plan for these crises and prevent the severity of instances like this. Proactive actions such as implementing a social media strategic plan, educational opportunities, partnerships, and an active presence on social media can aide in protecting the image of the industry.

This study sought to better understand how individuals participate in online media during a crisis and how they were discussing Fair Oaks Farms after the videos were

released. The social analysis and the sentiment analysis in this study shed light on how consumers perceptions of Fair Oaks Farms and the livestock industry can be influenced by social media.

The findings in this study suggest agriculturalists should continue to take action in positively representing the industry on social media. Consumers had a negative perception of Fair Oaks Farms along with the dairy industry after accusations were made about animal welfare practices. This suggests agriculturalists should be present on social media to combat activists, dispute myths, and to effectively educate consumers.

From the findings in this study, we now know a little more about the influence social media has on consumers regarding the agricultural industry. However, more research and implications should be conducted to reduce the repercussions of these accusations in the future. We cannot predict what the future holds for industry, but we can alter how react to the activists and display the industry in all platforms. These platforms include online networks, face-to-face interactions, and written communications.

Transparency and sustainability of agriculture will take all 2% of the world involved in the agricultural industry working together to combat anti-agricultural efforts. Through this study, we know now a little bit more about the individuals engaged in agricultural welfare, which offers the unique opportunity for agricultural affiliates to positively communicate the agricultural industry to the consumers. The results of this study suggest consumers want their voices to be ‘herd’ and their voices can influence others for change. Listening to these voices allows agriculturalists to create a strategic social media plan for future crises. Additionally, agriculturalists can gain understand of the affects social media can have on their business from this study’s findings.

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Teaching Assistant

University of Kentucky 2018-2020
(Southeast Center for Agricultural Health and Injury Prevention)
Outreach Coordinator

JD's One Hour Heating and Air Conditioning 2010-2018
Part-time manager

Texas 4-H Center 2017
Media Intern

San Antonio Livestock Show and Rodeo 2017
Swine Intern

National Western Livestock Show and Rodeo 2017
Show Intern

State Fair of Texas 2016
Agricultural Education Intern

PRESENTATIONS, PUBLICATIONS, AND POSTERS

"No Words": A Non-Narrative Approach to Education 2020
Jacelyn D. Nesmith, Andrew Hauser, & Rebekah B. Epps
Presented at The Southern Association of Agricultural Scientists

What Do They Want? 2020
An Exploration of Agricultural Communication Skills Needed for Kentucky FFA Teachers
Jacelyn D. Nesmith, Brett Wasden, Nick McDowell, Laura Fischer
Presented at The Southern Association of Agricultural Scientists
Awarded Outstanding Research Poster Second Runner-up

Creating Great Educators Using Maker Education 2020
Andrew L. Hauser, Jacelyn D. Nesmith, & Rebekah B. Epps
Presented at The Southern Association of Agricultural Scientists

Not Horsin' Around: Learning Mathematics the Horse Way 2020
Juliana Gardner, Jacelyn D. Nesmith, Andrew Hauser, & Rebekah B. Epps
Poster Presented at the Southern Association of Agricultural Scientists

An Initial Exploration of the Factor's Today's Farmers are Facing 2019
Jacelyn D. Nesmith, Stacy K. Vincent, & Joan Mazur
Presented at Central Appalachian Region ERC

Growing Sober: 2019
Exploration of Negative and Positive Factors Influencing Rural Stake Holders
Jacelyn D. Nesmith, Stacy K. Vincent, & Joan Mazur
Presented at The International Society for Agricultural Safety and Health

The Negative and Positive Factors Influencing Rural Communities 2019
Jacelyn D. Nesmith, Stacy K. Vincent, Joan Mazur
Presented at the American Association for Agricultural Educators

Andragogical Lessons Learned from the Stockyards Beef Learning Series 2019
Jacelyn D. Nesmith, Sarah D. Warren, & Rebekah B. Epps
Presented at the American Association for Agricultural Educators