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Animal Welfare Frames: How Social Media Messages Bridge the Gap between the Protein Industry and Consumers

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Animal Welfare Frames: How Social Media Messages Bridge the Gap between the Protein
Industry and Consumers

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Science in Agricultural and Extension Education

by

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Abstract

The two articles in this thesis used content analysis to analyze and compare animal welfare related website and Twitter content of the top five animal protein producing companies in the United States. In the first article, the animal welfare website content of Cargill, Tyson Foods Inc., Smithfield, JBS® and Sysco were analyzed for persuasive frames, common topics, and key terminology to describe their corporate positions on animal welfare. Sysco's main page devoted to animal welfare dominated the word count with 1,045 words, while JBS®'s main animal welfare page used only 265 words to communicate the company's views. The most commonly identified topic was policy. The predominant frames were being *recognized as an industry leader* and *animal care vs. profit*.

In the second article, researchers conducted a similar content analysis on the Twitter efforts of the five companies and their audiences. Tweets relating to animal welfare originating from the companies and audiences were collected from November 2016 to May 2017 and were coded for common topics, persuasive frames, and tone. The Twitter traffic was compared to findings from the first study, which described the companies' animal welfare web pages. Findings indicated it was common practice for the companies to tweet rarely regarding animal welfare. In fact, only three tweets related to animal welfare topics were identified among the companies' Twitter traffic in the period that bounded the study. Cargill and Smithfield, the only two companies to produce tweets, were able to communicate key animal welfare messages, such as being an animal welfare *industry leader* and having strong animal welfare *policies*, in both their websites and tweets. The other 156 tweets consisted of audience members tweeting at or mentioning one of the five companies. While the audience members also communicated the *industry leader*, *animal care vs. profit* and *zero tolerance for abuse* frames, the tones toward the

industry's production practices (positive, neutral or negative), played a role in defining the audience members' key messages. Cargill's audience produced the most positive tweets with 57, while Tyson Food Inc.'s audience was predominantly negative with 52 total negative tweets.

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Chapter One: Introduction

Need for the Study

In past decades, advances and growth in the agricultural industry have been immense and far-reaching. Growing diversity within agricultural production industries has provided the public with accessible food sources to match a growing population, while increasing biodiversity, improving sustainability, and developing more transparent uses of resources (Fraser, 2005). More specifically, the animal protein industry has seen soaring figures in terms of protein consumption around the globe (Institute of Food Technology [IFT], 2014; Fraser, 2005). A growing population demands a growing food source. While animal protein production demand have grown, methods of providing enough products to meet the demand naturally have changed with the times (Conway, 2012).

Improvements in agriculture production systems, such as animal agriculture, have brought with them an increased consumer demand for transparency (McKendree, Croney, & Windmar 2014; Hansen et al., 2003). Literature suggests that animal husbandry and welfare concerns have centered on meat production (Beecher, 2013; Bornett et al., 2003). Consumers are not solely concerned with nutritional attributes of their meat products, such as protein or fat content, but are also concerned with the process of how the animals are handled before harvest (Olynk et al., 2010). These concerns are altering the way consumers purchase their animal protein products. As consumers are educated and gain more information about animal welfare, their choices in animal products change (Verbeke & Viane, 1999). A “consumer citizen” learning about animal handling, or food production practices, may express his or her opinions through consumer preferences and purchases (Frewer et al., 2004). However, McKendree et al. (2014) found over half of surveyed consumers do not have a primary source of animal welfare

information. While numerous sources of information on animal welfare exist, ranging from industry advocacy groups to animal rights activist groups, McKendree et al.'s study highlighted the fact that none appear to rise to the top as a primary source of information for consumers.

According to the Pew Research Center, up to 69% of U.S. adults utilize some form of social media, and, among those, millennials are the most frequent users. Six out of 10 adults receive their news from a social media platform (Pew, 2017). This makes the social media a relatively new access point for businesses to reach their consumers through media relations efforts.

In today's digital age, it is no surprise that businesses also capitalize on the opportunities social media presents. With the rise in popularity of social media, these technologies are reshaping the workplace and giving rise to new opportunities and challenges for both businesses and employees (Ouiridi, 2016). As a communication channel with the ability to convey information to diverse audiences, at the same time, social media provides the opportunity for audience members to engage with each other and cultivate different levels of understanding of topics such as agriculture (Alabi et al., 2013).

Statement of the Problem

There is a growing divide in knowledge between animal protein producers and their consumers. Filling the information gap is essential to supplying a growing population with animal agriculture products (Conway, 2012). Even though the United States maintains a growing meat production system, there are still suspicions among the general public about where their animal products come from and how those animals are treated (Beecher, 2013). These types of suspicions cause hard lines to be drawn between those who are willing to learn about and understand the production system and those who refuse to be reached. This communications

problem has existed since well before social media existed and continues to stem from a lack of communication between producers and consumers (Zimbelman, Wilson, Bennett, & Curtis, 1995).

To better understand this disconnect in knowledge, it is important to determine the way consumers and producers communicate. Literature suggests social media is one of the more effective methods companies employ to reach out to and understand consumers, as well as to communicate messages with consumers who are seeking information, such as how their animal protein is being treated prior to or during harvest. For those individuals willing to learn about appropriate animal production, social media appears to be an efficient outlet for animal protein producers to properly educate consumers through strategic communications. For communications professionals and decision-making executives in a rapidly evolving protein industry, it is important to address and respond to social issues, such as a public concern for animal welfare, in the most truthful and transparent manner possible (Lobao & Meyer, 2001).

Unfortunately, the agriculture and food industry and the academic literature supporting it lacks empirical information about the industry's communications efforts related to animal welfare. Yet, such information is vital so that the industry can have a logical base for its future social media strategies.

Purpose of the Study

Studying the current strategies of such animal protein producing companies will help professionals in the industry to better implement or improve upon these strategies in hopes of improving the companies' and the industry's images through social media efforts.

In order to most accurately explore the previously mentioned gap in knowledge, this overarching study was comprised of two individual efforts. A descriptive content analysis was performed to examine the public information and corporate positions on animal welfare available on each company's website. Another content analysis was conducted to compare the corporate positions with the current social media messages of each company. Findings from both studies were compared within each company and across the industry to identify consistencies or disconnects between the web-based communication efforts and the social media-based efforts.

Corporate Position on Animal Welfare

The purpose of study one was to identify and describe the nature of corporate positions on animal welfare available on the websites of the top five meat-producing companies in the U.S.

Social Media Efforts

The purpose of study two was to analyze recent Twitter efforts to describe content and to qualitatively describe the correlation with corporate positions on animal welfare found on the companies' websites.

Research Objectives

Corporate Position on Animal Welfare

1. Identify common topics in each company's animal welfare content
2. Identify the persuasive frames used by each company
3. Identify key terminology related to production and processing practices used in the corporate positions

Social Media Efforts

1. Identify common topics, persuasive frames and key terminology relating to animal welfare within the each company's Twitter account
2. Describe the social media narrative outside of the companies' posts
3. Determine if social media messages originating from the top 5 animal protein-producing businesses match the companies' articulated key messages on the website related to animal welfare in terms of common topics and persuasive frames
4. Determine if the social media narrative outside of the companies' posts support these common topics and persuasive frames

Assumptions

Corporate Position on Animal Welfare

1. It is assumed the content on each company's website, designated as corporate positions on animal welfare, represented the companies' current positions.

Social Media Efforts

1. It is assumed social media content originating from each company was founded on the companies' actual corporate positions on animal welfare.

Limitations

Corporate Position on Animal Welfare

Content found on websites is not a holistic representation of all possible corporate positions on animal welfare. Additionally, the content analyzed was subject to change at any point after the time of data collection for this study.

Social Media Efforts

The online content analyzed in this study is limited to the top five protein producing companies in the United States. The findings may not be generalizable to the entire protein industry.

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Chapter Two: Corporate Positions on Animal Welfare

Introduction

Most consumers shape opinions and concerns about animal welfare with little or no direct knowledge of, or experience with, animal production practices (Abrams, 2012). As technologies have advanced in both animal production practices and the world of public communications, information on how livestock are typically raised and processed into protein foods has become available to consumers on a multitude of media platforms. However, in terms of consumers' understanding of animal production and processing practices, more than half of consumers recently surveyed reported not having a solid source of information regarding animal welfare (McKendree et al., 2014).

The improvement of animal welfare is a shared responsibility and challenge for many industry professionals within the protein supply chain, researchers (Verbeke, 2009). One common way for animal protein companies to reach their consumers directly with messaging about animal welfare is through providing information on their corporate websites. While the volume of online content and the reach of web-based activities continue to grow rapidly, the web, for most corporate actions, remains a mainstay tool for communicating with consumers (Symonenko, 2007). Animal agriculture often points the finger at media outlets for miscommunication of key animal welfare issues; however, it is also the responsibility of animal protein companies to provide an outlet, such as a website, for consumers that contains accurate, transparent animal welfare facts (Croney, 2012).

Animal welfare is an increasingly sensitive subject among consumers. For most businesses, including those in the protein industry, persuasion strategies are of utmost importance in forming and proliferating socially acceptable standards and, eventually, changing

or maintaining business practices (Coombs, 1998). One persuasion technique is the use of framing in corporate communication efforts, such as website content. Framing involves selecting aspects of a situation and making them more prominent to audiences through communicating text to perform four main functions: define problems, diagnose causes, make moral judgments, and/or suggest remedies (Entman, 1993).

Framework

Framing as It Relates to Public Relations

An important persuasive technique in public relations and media is the development of message frames (Perloff, 2008). Message frames are used to determine what content is relevant to an audience; to define the roles of those involved; to outline relevant beliefs, actions, and values; to determine the language used to discuss the topic; and to outline the values and goals of the content area (Hertog & McLeod, 2001). Framing has been used as a paradigm for understanding and investigating public communication messages and related behavior in a wide range of disciplines (Rendahl, 1995). In the case of public relations, literature suggests that the act of framing messages is a useful tool for communicating with audiences about potentially divisive issues.

Hallanah (1999) explained that public relations professionals have been referred to pejoratively as “imagemakers” and “spin doctors”—labels that only partially portray their important role in constructing social reality. However, framing is much more than simply articulating an issue with a positive “spin” through an appeal to emotion. Successful, professional, ethical framing involves a logical approach. Pan and Kosicki (1993) suggested that framing can be found in a series of structures within the message. These include syntactical

structures, stable patterns of arranging words and phrases in a text script structures, the orderly sequencing of events in a text in a predictable or expected pattern; thematic structures, the presence of propositions or hypotheses that explain the relations between elements within a text—including the presence of words such as “because,” “since,” and “so”; and metaphoric structures that subtly recommend how a text should be interpreted (Hallanah, 1999).

Framing in News Reporting

Framing also is used in news reporting. Framing in news reporting relates to the way in which journalists compose a news story to optimize audience understanding (Valkenburg et al., 2003). Characteristics affecting framing include the subject, the angle, the balance, and the tone of the news story.

In 1992, Walter Lippman set the foundation on which we understand framing in news reporting. Lippmann’s four main points of analysis seek to understand (1) the role public opinion plays in democracy, (2) the significance that stereotypes have in forming public opinion, (3) the ability of news media to identify and select news, and (4) how individuals’ interpretations and perceptions of reality are filtered or augmented through the media (Lippmann, 1992).

When evaluating the growth of framing in news reporting, Provencher (2016) concluded that framing demonstrates how the selective power of journalists has an impact on public opinion. In journalistic theory, framing is a tool that can be used by information gatekeepers (see Kurt Lewin 1943 for an explanation of Gatekeeping Theory), which affects public issue agenda setting (see Erving Goffman for an explanation of Agenda Setting theory). The interaction of these theoretical pieces of the public communications process suggests the necessity to understand the intentional constructions (or framing) of information as presented by the media.

Public Perceptions of Animal Welfare

In 2003, Knight, Nunkoosing, Vrij, and Cherryman conducted in-depth interviews to better understand how consumers' attitudes toward livestock productions and processing are formed. Researchers found that instead of consumers forming attitudes based on facts, they often build their opinions to fit their circumstances. For example, although consumers may have a deep compassion for animals, they also eat meat and, therefore, need to justify this opposing choice (Knight et. al, 2003). Therefore, consumers actively seek and understand new information regarding animal production, or actively avoid it, depending on whether the information supports or undermines their attitudes or behaviors (Knight et. al, 2003).

As the protein industry faces increased pressure to maintain a transparent production system, public perceptions of animal agriculture practices have often driven the direction of the industry. These public perceptions of animal production and processing methods are formed based on the information the public receives about animal welfare, no matter the source. In 2014, McKendree, Croney and Widmar conducted a study to determine the effects of demographic factors and information sources on United States consumer perceptions of animal welfare. Through an online survey of 798 U.S. consumers, researchers sought information on the relationship between demographics and level of concern for animal welfare as well as sources used to obtain information on the subject. While they found that the individuals most concerned with animal welfare were young females, it was evident that consumers of many demographics were not plugged into a reliable source of information on the subject. Over half of the respondents (56%) did not have a primary source for animal welfare information; those who identified a primary information source most commonly used information provided by animal

protection organizations, the Humane Society of the United States (HSUS), and People for the Ethical Treatment of Animals (PETA) (McKendree et al., 2014).

According to a 2007 agricultural census, only 1% of the population is involved in production agriculture (United States Department of Agriculture National Agricultural Statistics Service, 2007). With so few Americans having first-hand knowledge of animal production practices, the public must rely on media sources to receive its animal production knowledge. Pawlick (1996) reported that agricultural news was often delivered incorrectly because the common reporter was not knowledgeable about farming and production. Saunders (2002) noted that agricultural literacy among journalists was lacking and that such literacy is important in the media field in order to better report about the industry. It stands to reason, based on Saunders' conclusions, that developing a more accurate image of the agricultural industry among consumers would require more factual reporting by journalists from a more educated perspective.

Content Analysis

One way of studying how existing public information has been framed is content analysis. Content analysis is used to study a broad range of 'texts' ranging from transcripts of interviews and discussions and social research to the narrative and form of films, TV programs and the editorial and advertising content of newspapers and magazines (Macnamara, 2005).

Specifically, content analysis has been used in the agricultural and animal production sectors to understand media content. In 2012, Abrams and Meyers conducted a content analysis of the social media platforms of The Humane Society of the United States and the Animal Agriculture Alliance. This work revealed persuasive tactics and frames used by each group to

successfully connect with their audience. In the context of this study, content analysis allows researchers to describe and dissect website contents to disclose the topics, frames and terminology used to make up animal welfare key messages.

Purpose of the Study: Identifying Corporate Positions on Animal Welfare

The purpose of this study was to identify and describe the nature of corporate positions on animal welfare available on the websites of the top five meat-producing companies in the U.S.

Objectives

1. Identify common topics in each company's animal welfare content
2. Identify the persuasive frames used by each company
3. Identify key terminology related to production and processing practices used in the corporate positions

Methodology

This study was conducted using content analysis methods to identify and describe the nature of corporate positions on animal welfare available on the websites of five meat producing companies in the U.S. Content analysis has been used to analyze a variety of communications (media coverage, television programming, historical documents, website content, etc.) to achieve a number of purposes such as describing content, testing hypotheses, exploring media image, and establishing a need for additional studies (Wimmer & Dominick, 2003). It involves a systematic reading of a body of text, images, and symbolic matter, not always from the user's or author's perspective (Krippendorff, 2012).

The five companies chosen as subjects of this research were identified as top five animal protein producing companies in the U.S. in terms of annual sales by multiple surveys and reports

(Food Business News, 2013). In no specific order, these companies were Cargill, Tyson Foods Inc., Sysco, Smithfield Foods, and JBS®. Each company maintained a dedicated a page or pages on their websites devoted to providing information on corporate animal welfare positions and practices within the company. This key website content was chosen as the appropriate content to examine, as the web pages represented the “hub” of each company’s animal welfare-related content and obviously represented each company’s corporate-wide position on animal welfare issues. These main animal welfare pages were determined to be the primary units of analysis in the content analysis.

The website content gathered from the Tyson Foods Inc.’s website came from the central *Why Animal Wellbeing is Important* page and the subsequent *Animal Wellbeing Policy and Commitment* page. Cargill’s animal welfare content was gathered from the pages *Animal Welfare and Our Policy—Animal Welfare at Cargill and Why It Is Important*. JBS® provided animal welfare website content on their *Animal Care* page. Smithfield animal welfare website content was provided and gathered from the *Our Commitment to Animal Care* page of the latest sustainability report. Sysco’s content was gathered from both the *Animal Welfare* and *At Sysco, Animal Welfare is Human Nature* pages.

This key animal welfare-related content was identified on each corporate website and was collected on May 19, 2017. The applicable content was moved to a text document, which was then loaded into NVIVO 11 qualitative visual data analysis software to be coded. The NVivo 11 software assisted researchers in identifying common topics, persuasive frames, and key terminology in each organization’s animal welfare content. This program provided a visual platform to analyze, organize, and discover insights in the qualitative data, which was the website content. The units of analysis (as described by Krippendorff, 2012) for this study were

the web page or pages clearly designated by the companies as their sources of information about animal welfare and the blocks of text within those pages.

Following a combined deductive and inductive approach to identify thematic topics, frames, and terminology, researchers began the analysis with a partially constructed codebook containing codes initially developed based upon animal production-related frames identified by Abrams and Meyers (2012). Also, as new topics, frames, and terms emerged, a constant comparative method was employed to validate their existence throughout the content. According to Glaser and Strauss (1967), the constant comparative method can be used during open coding to systematically break down and analyze a set of data by using the insights found in an earlier data set to inform the next iteration of data collection (1967). As new topics, frames, and terminology were detected, content that had already been coded was re-coded to include these new emergent components.

Two coders participated in training sessions to establish understanding of themes and to identify units of analysis. One researcher initially ran a coding analysis on each of the website contents. After the data had been coded thoroughly once, a second coder reviewed the analysis, and dissonance in coding was then reconciled.

Findings

Data were analyzed using NVivo 11 qualitative data analysis software to describe general characteristics of the website content as well as assign common topics, persuasive frames and key terminology related to animal welfare.

General Characteristics

Each company's animal welfare content was structured uniquely on the websites. The researchers' goal was to analyze the central animal welfare content and the key articulated animal welfare corporate positions.

Diverse Approaches to Communicating Position

Along with varying descriptive characteristics, each company chose to communicate its corporate position on animal welfare in unique ways. From promises of animal wellbeing to a description of animal welfare audits, each company dedicated a portion of its main animal welfare content to explaining to consumers the company's core values and goals concerning animal care. Each company's position, which was clearly communicated in all instances, placed animal welfare at the forefront of the organization's operations. Table 1 provides a brief description of the approaches each company took to portray these policies.

Table 1

Diverse Communication of Position

Company	Terminology of Approach	Description
Tyson Foods Inc.	Pledge	A promise to continue proactive implementation of animal welfare policies
Cargill	View	A description of Cargill's belief system detailing its animal welfare social responsibility
JBS®	Mission Statement	An explanation of how JBS strives to maintain a level of Respect for each animal
Smithfield	Commitment, Goals, Targets	A description of Smithfield's steps to ensure animal care is prioritized
Sysco	Approach	An explanation of Sysco's audit system to maintain a high level of care for animals

Each company utilized a unique approach to communicating its core corporate positions. For example, Tyson Foods Inc. presented its position in the form of a pledge to continue to seek out opportunities to improve animal welfare across the company, while Smithfield outlined a specific set of steps the company uses, such as goals and targets, to monitor their animal welfare practices. While each of the companies took a different approach, the central message was much the same: animal welfare is a recognized priority.

Common Topics in Each Company's Animal Welfare Content

Seven thematic topics were identified in the main animal welfare content of the five companies' sites. These topics emerged clearly in the analysis, and they denote the specific messages the five companies were communicating to their audience through their web content. In Table 2, the common topics are identified by company and frequency of reference.

Table 2

Common Topics

Topic	Companies Mentioning Topic	Frequency of Reference
Antibiotics	Smithfield	1
Audits	Cargill	2
	Smithfield	2
	Sysco	4
Commitment	Cargill	3
	JBS®	2
	Sysco	1
	Tyson Foods Inc.	5
Educational Programs	Cargill	3
	JBS®	1
	Smithfield	3
	Tyson Foods Inc.	1
Housing	Cargill	1
	Smithfield	2
	Sysco	2
Policy	Cargill	4
	JBS®	2
	Smithfield	11
	Sysco	5
	Tyson Foods Inc.	4
Cage-free	Sysco	2

Only one topic—*Policy* explanations—was mentioned by all five companies. The most common topic, *Policy* was mentioned a high of 11 times by Smithfield. Following *policy* in popularity, a *commitment* to animal welfare practices was the second most popular, being cited a total of 11 times overall. More specific topics such as *antibiotic* use and *cage-free* poultry were more rarely mentioned by only Smithfield and Sysco.

Objective Two: Identify the Persuasive Frames Used by Each Company

Each website was analyzed for the persuasive frames used by each company. The frames were identified using an emergent and constant comparison approach. Ten frames were

identified, and their descriptions are as follows (a priori frames previously identified by Abrams and Meyers (2012) are denoted with an asterisk).

- *Zero Tolerance for Abuse*-operating under a zero tolerance policy for abuse.
- *Animal care prioritized over profit*-viewing animal care just as, if not more important, than profit from those animals.*
- *Animal Welfare an established responsibility*-working to ensure that animal welfare is at the front of the priority order.*
- *Animal handling done in respectful manner*-ensuring animals are handled in ways that are most humane and least stressful
- *The customer is a valued opinion*-hearing and valuing customer opinions and concerns.
- *Education on animal welfare*-participating in or enforcing educational programs to better understand animal welfare issues.
- *Employees play a role*- working to put employees in place who understand and comply with animal welfare related policies.
- *Supplying protein to the public*-respecting the animals role as a part of the food chain system that provides the population with animal protein.
- *Guaranteeing animal healthiness* –recognizing and working towards the overall physical and mental health of company owned animals.*
- *Recognized as industry leaders*-excelling in animal welfare standards, the company is viewed as an authority on animal welfare issues.

Table 3 characterizes this data set by the frequency each company referenced the frames on its main animal welfare page. This data set identifies each of the ten frames used and which companies chose to use which frame.

Table 3

Persuasive Frames

Frame	Companies using Frame	Frequency of Reference
Zero tolerance For abuse	Cargill	4
	Smithfield	1
	Sysco	1
Animal care prioritized Over profit	Cargill	6
	JBS®	1
	Smithfield	2
	Sysco	1
	Tyson Foods Inc.	4
Animal welfare an Established responsibility	Cargill	6
	JBS®	7
	Smithfield	2
	Sysco	10
	Tyson Foods Inc.	5
Animal handling done in Respectful manner	Cargill	5
	JBS®	2
	Sysco	6
The customer's opinion Is valued	Cargill	2
	Sysco	1
	Tyson Foods Inc.	2
Educational programs are in place	Cargill	6
	JBS®	2
	Smithfield	2
	Sysco	3
Employees play a role	JBS®	2
	Smithfield	5
	Sysco	7
	Tyson Foods Inc.	3
Supplying protein to The Public	Cargill	2
	JBS®	2
	Sysco	5
	Tyson Foods Inc.	3
Guaranteeing animal Healthiness	Cargill	5
	Tyson Foods Inc.	2
Recognized as an Industry leader in animal Welfare	Cargill	12
	JBS®	2
	Smithfield	3
	Sysco	12
	Tyson Foods Inc.	7

There was diversity among the content of the websites, and no two websites utilized the exact collection of frames in their animal welfare content. Being *recognized as an industry leader* in animal welfare was the frame most referenced, while *guaranteeing animal healthiness* was only mentioned seven times overall. *Animal care was prioritized over profit, animal welfare an established responsibility*, and *recognized as an industry leader* were the three frames that each of the five companies referenced at least once in their position statements. Smithfield emphasized that *animal welfare is an established responsibility* while Sysco and Tyson Foods Inc. placed a priority on the *industry leader* frame.

Objective Three: Identify key terminology related to production and processing practices used in the corporate positions

After coding, 18 thematic animal welfare-related terms used to describe common production and processing practices emerged. Table 4 details the key terminology identified.

Table 4

Key Terminology Related to Animal Production Practices

Terminology	Companies using Terminology	Frequency of Reference
Abuse	Cargill	1
	Smithfield	1
Animal Handling	Cargill	5
	JBS®	2
	Smithfield	1
	Sysco	10
	Tyson Foods Inc.	2
Antibiotics	Smithfield	2
Cage-free	Sysco	2
Ethical	Cargill	2
	JBS®	1
	Tyson Foods Inc.	1
Farm	Cargill	3
	Smithfield	3
	Tyson Foods Inc.	1
Gestation Crates	Cargill	1
	Sysco	3
Growers	Cargill	1
Harvest	Sysco	1
	Tyson Foods Inc.	1
Housing	Cargill	1
	Smithfield	3
	Sysco	2
Humane	Cargill	1
	JBS®	6
	Sysco	5
	Tyson Foods Inc.	3
Nutrition	Cargill	1
	Tyson Foods Inc.	2
Processing Facilities	Cargill	1
	Smithfield	3
	Sysco	2
Raising	Cargill	2
	Tyson Foods Inc.	1
Slaughter	JBS®	2
Sustainable	Tyson Foods Inc.	1
Transparency	JBS	1
Transport	JBS	2
	Smithfield	2

Across the companies, *animal handling* and *humane* were the two most used terms with 20 and 15 references respectfully. *Growers*, *sustainable*, and *transparency* were used the least, only mentioned one time by only one company each. Cargill used 11 of the 18 terminologies while JBS® used seven. Sysco placed an emphasis on *animal handling*, mentioning the term 10 times.

Conclusions and Discussion

Common Topics

The common topics identified illustrate the dialogs the companies were willing to open in their animal welfare positions. It is reasonable to state that each of the companies took a general approach to the topics, commonly citing *policy* and a *commitment to animal welfare*. Less used, however, were the more specific topics such as *antibiotic use* and *cage-free poultry*. While each company used a unique combination of topics, for the most part, companies avoided mentioning the more controversial topics such as *housing* and chose to focus on big picture topics such as *a commitment to sound animal welfare practices*.

The majority of consumers form their opinions about animal welfare practices with little to no practical agriculture experience (Abrams & Meyers, 2012); therefore, providing the public with a comprehensive and accurate portrayal of animal production practices is critical to their understanding of these practices.

Persuasive Frames

Persuasive frames shape the way readers access and understand a message (Valkenburg et al., 2003). Each company used a particular set of frames to mold individual animal welfare messages for consumers. It appears to have been important that the companies lead consumers to

the conclusion that their company was an *industry leader in animal welfare*, as this was easily the most cited frame across the companies. Being recognized as an authority in the animal welfare conversation reinforces the idea that each company prioritizes animal welfare advances. Supporting this idea were the *animal care prioritized over profit* and *animal welfare an established responsibility*. These two frames, along with being *recognized as an industry leader*, were the frames that each of the five companies mentioned.

According to a 2012 study by Abrams and Meyers, which identified common animal welfare-related frames, *guaranteeing animal healthiness* was expected to become a prominent frame. However, in this study *guaranteeing animal healthiness* was one of the least cited frames. This could be a result of the companies focusing on establishing themselves as an industry leader instead of communicating specific details such as animal healthiness.

Key Terminology Related to Animal Production Practices

The key terminologies identified were animal production practice related. Eighteen emergent terms were identified. Of those, *animal handling* and *humane* were straightforwardly the most cited terms, supporting the idea that companies place an emphasis on the ethical portrayal of their animal practices.

Literature suggests that instead of consumers basing their animal protein purchase decisions on facts, alone, they feel a need to justify their choices ethically (Knight et. al, 2003). One aid in this is choice of words. JBS® chose to describe the animal processing practice with terms such as *slaughter*, while Sysco and Tyson Foods Inc. chose *harvest*. Similar comparisons exist among the terms *farm* and *processing facilities*, and *farmers* and *growers*. Word choices such as these, through denotation and connotation can affect framing and potentially affect tone

positively or negatively. It is reasonable to assume that companies communicating a more broad message were careful to choose words that were not specific or controversial. Consumers justifying their animal protein purchases may not be offended by terms such as *harvesting*, while *slaughter* could be more abrasive.

Recommendations for Practice

Communications professionals at each company should use the results of this analysis as an evaluative tool to determine if the web content related to animal welfare actually communicates the companies' animal welfare messages as they were intended to be communicated. Repetition of key frames, focus on key topics, and use of advantageous terminology are all important strategies that can benefit from the results of this content analysis in agricultural media (Provencher, 2016).

The comparative nature of this study may guide industry communicators on how to be more consistent in industry-wide messaging about animal welfare. As consumers report not having a reliable source of information regarding animal welfare practices (McKendree et al., 2014), a united message across the animal protein industry would provide consumers with consistent sources of information. Saunders (2002) pointed out that fact based reporting is essential to successful agricultural media practices. When communicating an animal welfare idea to consumers, using company policies, frames, terminology, and topics as portrayed on the website will create a more fluid and consistent message less likely to be lost in translation.

Recommendations for Further Research

Further research should include matching these content analysis results with the existing communication strategies of each company. Determining whether or not corporate communication strategies are being accurately executed could lead to a streamlined channel of communication between companies and consumers.

More content analysis studies should be conducted on animal protein companies' other media outlets, such as social media. Social media is a product of rapidly evolving, technology driven communication efforts (Symonenko, 2007), thus further research regarding these outlets could help communication professionals and animal protein companies contribute to a more transparent animal welfare conversation.

Also, further studies should be conducted to compare the presence of frames, topics and terminology in news coverage to determine the effectiveness of web based communication on media relations. Looking for consistency between the online messages of these companies and news coverage of animal welfare issues could guide communication professionals to the more streamlined coverage of animal welfare issues that consumers demand (Hansen et al., 2003).

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Chapter Three: Social Media Efforts

Introduction

The animal agricultural industry is becoming increasingly and thoroughly criticized on ethical grounds in regards to animal welfare (Croney et al., 2012). Consumers question modern, large-scale “factory farming” practices, citing concerns such as animal well-being, food safety, worker conditions and environmental impacts (Mckendree, Croney, & Windmar, 2014; Fraser, 2001). While agricultural organizations and businesses continually try to address negative messages about agriculture, specifically animal production, consumers remain apprehensive (Abrams & Meyers, 2012). In attempts to provide transparency, even researchers and knowledgeable agriculturalists struggle to communicate animal welfare issues. Fraser (2001) noted that, some scientists and ethicists have either inadvertently or purposefully produced misleading, polarized, or overly simplistic explanations of animal agriculture production practices. Further compounding the communication problems between producers and consumers, over half of consumers report not having a solid, reliable source of facts regarding animal welfare information (McKendree et al., 2014).

According to the American Press Institute (2015), the millennial generation receives its news and information regarding “hot topics,” such as animal welfare, in a different way than previous generations. Instead of getting information directly from news providers such as newspapers or television news, individuals now turn to platforms such as social media. While researchers believed this would narrow the world view of such individuals, the use of social media to explore social issues provides individuals with new insights as their peers may recommend and contextualize controversial topics. Therefore, the use of social media provides animal protein companies with an effective platform on which to reach current consumers, many of whom belong to this generation of social media users.

While the use of social media would effectively put animal welfare information in front of consumers, the use of important persuasive tactics such as message framing is key in shaping these messages. Frames are used to determine what content is applicable audience discussion; to outline relevant beliefs, actions, and values of the audience; to determine language used to discuss a topics; and to outline the values and goals of the topic (Hertog & McLeod, 2001). The use of frames in the social media efforts of animal agricultural companies shapes the way consumers understand these key issues.

Framework

Framing in Media Relations and Social Media

As animal protein producing companies provide their consumers with information relating to animal welfare, it is important to understand an important persuasive tactic: the message frame. In this case, message frames are the lens consumers view the animal welfare related information through.

Message framing involves the selection and translation of information to define problems, diagnose causes, make moral judgments, and suggest remedies (Entman, 1993). Message framing has become widely used by public relation professionals in branding. While this has often earned public relation and media professionals titles such as “imagemakers” and “spin doctors” (Hallanah, 2009), many communications professionals in the animal agriculture industry use framing techniques to shape the way audiences view and understand their specific content using ethical and logical persuasive approaches.

Message framing is also a method used in social media efforts. While some view message framing as a way to organize content, it also could be viewed as manipulative to

consumers. Perloff explains that message framing could be viewed as “word games” used to distract others from fully understanding a concept (Perloff, 2008). For example, in the context of animal agriculture, animal welfare activists, refer to large operations as “factory farms,” while the agricultural industry refers to these locations as Concentrated Animal Feeding Operations (Abrams & Meyers, 2012).

Public Perceptions of Animal Welfare

In the United States, debate continues about the social responsibility, growth and overall sustainability of the current prevailing model of large-scale animal production (Croney et al., 2012). Transparency is often demanded of animal agricultural systems and this demand often drives the direction of industry practices. In 2003, Knight, Nunkoosing, Vriji and Cherryman conducted a study to determine how attitudes towards animal agriculture were formed. It was determined that consumers like animals but in most cases are also willing to consumer animal protein (Knight et. al, 2003). This is a contradictory behavior in the eyes of consumers. Therefore, information is actively sought after or actively avoided, depending on the consumers existing attitude (Knight et. al, 2003). It is reasonable to draw the conclusion that consumers are actively seeking out information regarding animal welfare practices on which to base their beliefs.

The information consumers receive regarding animal welfare has long since been debated. Croney recognized the challenges of relying on any one entity to provide the public with the most sound animal welfare information by relating the idea that, “It is critical to address what appears to be growing public demand for a different model of production while ensuring that decisions are scientifically and ethically grounded, and that there is a holistic understanding of the consequences of these decisions on animals and society. To do so, it is important to

understand the bases of the ethical food movement, and the roles of key entities, including scientists, various stakeholders, and the media in establishing acceptable practices and food policies” (2012).

Rise of Social Media

Social media use is changing the way journalism is utilized. Seven-in-ten Americans report using social media networks on a regular basis and 62% of Americans receive their news on a social media platform (Pew Research Center, 2017). This concludes that it’s rise in the last two decades, social media usage is evolving from strictly a social medium to a place where individuals can now exchange ideas and learn about social issues. Social media has answered the call to provide news. For example, The New York Times, the Guardian, CNN and the Huffington Post made certain information emerging from social media platforms a central part of their coverage, allocating specific resources to provide a filtered take of the activity on Twitter, Facebook and blogs (Newman, 2009).

News organizations are not the only ones to adapt to the social media movement. The concept of social media is top of the agenda for many business executives today. Industry leaders, as well as media consultants, try to identify ways in which firms can make profitable use of applications such as Wikipedia, YouTube, Facebook, Second Life, and Twitter (Kaplan & Haelein, 2009). Mangold and Faulds conducted a study in 2009 to support the idea that social media is a hybrid element of the promotion mix because in a traditional sense it enables companies to talk to their customers, while in a nontraditional sense it enables customers to talk directly to one another (2009). This poses an interesting predicament for companies. Mangold and Faulds concluded that companies should know how to shape the social media conversation surrounding their organization (2009).

One social media platform popular among users is Twitter. Michelle McGiboney of Nielsen Online explains, “Twitter.com continues to grow in popularity and importance in both the consumer and corporate worlds. No longer just a platform for friends to stay connected in real time, it has evolved into an important component of brand marketing” (2009). This provides both the animal protein producing companies and its consumers a place to meet and exchange information.

Content Analysis

Content analysis is common method of characterizing and describing, in this instance, a body of text. According to Wimmer and Dominick, “over the past decade, the symbols and messages in the mass media have become increasingly popular research topics” (2003). As social media has gained popularity in the spreading of information, understanding the messages companies use on social media is a relevant research topic.

Content analysis can be defined in many ways. Kerlinger describes content analysis using three key terms: systematic, objective and quantitative (Wimmer and Dominick, 2003). Several communication studies have described the characteristics of a body of text in a simple attempt to define what exists in the content (Wimmer and Dominick, 2003).

Content analysis has also been used in agricultural communications studies to better understand social media efforts. In 2016, Wickstrom and Specht employed the use of the social media data base and analytic program Sysomos to gather tweets linked to a water quality event in Ohio (2016). Sysomos is a platform that allows users to use a search string to identify and isolate any existing tweets relevant to the search query. From there, researchers are able to download the data set and then apply content analysis methods to characterize the findings.

Content analysis also is relevant in the study of agenda setting (Wimmer & Dominick, 2003). An analysis of related media content is necessary to determine the significance of news topics which leads to the subsequent studies of the correspondence between the media's agenda and the audience's agenda (Wimmer & Dominick, 2003).

Purpose of the Study

The purpose of this study is to analyze current social media efforts to describe content and evaluate the congruency with corporate positions on animal welfare.

Objectives

1. Identify common topics and persuasive frames relating to animal welfare within the each companies' twitter account
2. Describe the social media narrative outside of the companies' posts
3. Determine if social media messages originating from the top 5 animal protein-producing businesses match the companies' articulated key messages on the website related to animal welfare in terms of common topics and persuasive frames
4. Determine if the social media narrative outside of the companies' posts support these common topics and persuasive frames

Methodology

This study used content analysis methods to characterize animal welfare-related Twitter content of five animal protein-producing companies. Three key characteristics in particular were studied: terminology used to refer to production and processing practices, persuasive frames, and common topics. These findings also were compared to the corporate websites to determine similarities and consistency among the three variables.

Content analysis has been used to analyze a variety of communications (media coverage, television programming, historical documents, website content, etc.) to achieve a number of purposes such as describing content, exploring media image and establishing a need for additional research (Wimmer & Dominick, 2003). It involves a systematic reading of a body of text, images, and symbolic matter, not consistently from the audience's perspective (Krippendorff, 2012). Content analysis at its core is simply identifying what exists within a body of text. For the purposes of this study, content analysis methods were deemed most effective for describing the Twitter atmosphere of each company.

This study examined corporate social media efforts related to animal welfare. Specifically, it focused on posts from the Twitter accounts of the top five animal protein producing companies in the U.S. according to Food Business News (2013). Twitter was chosen as the specific form of social media for a few reasons. Over 24% of online users communicate ideas through Twitter (Pew Research Center, 2016), each of the top five companies maintains a Twitter account on which to communicate with consumers and Sysomos Search, the social media analytics program used to gather data, provided researchers a high level of access to Twitter interactions in the last year. Tweets were collected from an identified six-month time frame. Sysomos Search allows researchers to gather tweets as far back as one calendar year. Because of the time frame restraint, researchers chose to gather the most current tweets from the last six months, November 2016-May 2017.

Each selected company's tweets relating to animal welfare were identified and collected using Sysomos Search. Sysomos is a unified, insights-driven social platform that gives marketers the ability to search and analyze across earned, owned, and paid media (Sysomos, 2017). Sysomos allows users to collect both social and traditional media conversations and creates

detailed reports on conversation's sentiment, demographics, geography, and key influencers on platforms such as Twitter (Wickstrom & Specht, 2016). Using Sysomos Search, the researchers created a search query to collect all relevant tweets. Within the time frame specified, the search strings (“welfare” OR “care” OR “handling” OR “rights” OR “animal”) AND (@company name) and (“animal” AND :company name) were utilized. In an effort to manage the data, the tweets were downloaded into an Excel spreadsheet.

Once the data set was downloaded, the primary coder began to screen the tweets for relevant terminology relating to animal welfare in an effort to weed out irrelevant tweets. The coder analyzed the tweet set for animal agriculture related words such as *animal handling*, *animal welfare* and *animal confinement*. Then two researchers reviewed the screened set of data and agreed upon the inclusion or exclusion of tweets based on the presence of animal welfare related content. In total 158 tweets were included in the final data set to be coded.

Once the final data set had been identified, the tweets were categorized based on existing and emerging topics, frames, and key terminology. Both researchers coded the 158 tweet data set independently. After initial coding, the researchers reconciled and agreed upon any differences in their data set. This produced the final, coded set of data.

Analysis included both a deductive and inductive approach. A primary code book of expected topics, frames, and terminology had been developed based on frames found in related literature, however, thorough out the process of analyzing the constant comparative method was employed to also apply emergent components to earlier analyzed tweets. According to Glaser and Strauss, the constant comparative method is used to thoroughly describe a qualitative set of data. As emerging themes, topics, and terminology developed, data that had already been screened was recoded for the newest components.

Researchers chose to employ NVivo 11 qualitative data analysis software to visually analyze the common topics and persuasive frames of the tweets and outside narrative. The NVivo program provided a platform on which to visually analyze, organize and discover insights into the tweets for the comparison to each of the company's corporate animal welfare positions, which were identified in an earlier phase of the study. Also compared using NVivo was the narrative outside of the each company's tweets and topics and frames across the industry.

The data set gathered from Twitter was analyzed using NVivo11 qualitative data analysis software to describe general characteristics and assign persuasive frames, topics, and tone of both the five company's tweets and the audience's tweets relating to animal welfare.

Findings

General Characteristics

General characteristics, including how many tweets each individual company made and how many tweets audience members directed towards each company, were described first. These numbers defined the amount of Twitter activity of both groups—the corporations and the public—in relation to animal welfare. Table 1 illustrates these numbers. The tweets were collected from a six-month time frame, November 2016-May 2016, directly preceding the day of collection. Sysomos generated this data set as a result of search strings utilizing animal production terms and the company name.

Table 1

General Characteristics of Animal Welfare Tweets

Company	Tweets Made by Company	Tweets made by Audience to Company
Tyson Foods Inc.	0	64
Cargill	2	66
JBS®	0	8
Smithfield	1	15
Sysco	0	0

The number of tweets coming from each audience overwhelmed the volume of tweets coming from the five companies. Cargill and Smithfield were the two companies to contribute to the animal welfare Twitter conversation by tweeting two times and one time, respectfully. Tyson Foods Inc., JBS®, and Sysco did not publish a tweet related to or engaging in the animal welfare conversation. However, companies such as Tyson Foods Inc. and Cargill observed the most engagement from their audience with 64 and 66 outside tweets. JBS® and Smithfield were tagged in 8 and 15 outside tweets while Sysco was the least engaged company with no tweets directed to them regarding animal welfare.

While there were only two companies that issued animal welfare related tweets from the corporate Twitter account, those tweets were then retweeted and spread by the audience.

Objective One: Identify common persuasive frames, topics and key terminology relating to animal welfare within the each companies' twitter account

The data set consisting of tweets originating from the five companies consisted of three tweets, two from Cargill and one from Smithfield. While there were only three tweets, they still received attention from the audience. Cargill's two tweets were retweeted a total of 28 times; however, Smithfield's tweet was not retweeted by the audience (Table 2).

The companies' tweets were analyzed to determine common topics on which the posts were focused. The analysis of topics allowed researchers to understand the topics companies appeared to be willing to discuss through Twitter. Each company tweeted about different topics including *animal welfare*, *animal feed* and *policy* (Table 2).

Persuasive frames were identified as being present in the three tweets originating from the corporate Twitter accounts. Frames were identified using an existing codebook and emergent approach to thematic analysis, employing the constant comparative method. Within the three tweets, two frames were identified and are described below:

- *Recognized as industry leaders*-excelling in animal welfare standards, the company is viewed as an authority on animal welfare issues.*
- *The customer's opinion is valued by the company*-hearing and valuing customer opinions and concerns.

*a priori frames (Abrams & Meyers, 2012)

Each of the three tweets were positive in tone due to terminology promoting affirmative animal welfare practices. The tones were defined as:

Positive- Tweets that take a supportive position toward the animal agriculture industry and its current production and animal handling practices

Neutral-Tweets that either do not take a positive or negative position toward the industry and its practices or that simply provide facts

Negative-Tweets that are derogatory toward the industry and its current practices

Below, table 2 describes each of the three tweets published by Cargill and Smithfield in terms of retweets, topic and persuasive frame. This data set illustrates the conversation both companies are contributing to the animal welfare conversation on Twitter.

Table 2
Corporate Animal Welfare Tweets

Company	Tweet	Number of Retweets	Topic	Frame
Smithfield	RT @BuckeyeHannah: Enviroment, people, animal care, food quality & safety, helping communities= pillars of sustainability at @SmithfieldFoods #SustainableAg	0	Animal Welfare ₁	Industry Leader ₁
Cargill	Animal welfare matters: 76% of relevant US companies have adopted farm #animalwelfare policies, up from 46% in 2012 https://t.co/MB1Nr9KB3W	22	Policy ₁	Industry Leader ₁
	We need to feed the world in the way that consumers demand. “Why animal feed matters to consumers: https://t.co/zgHAOUhpyd #futureoffood”	6	Animal Feed	Consumer ₁

Smithfield published its lone tweet about animal welfare using the *industry leader* frame and the general *animal welfare* topic. This tweet originated from a Smithfield follower, however, the Smithfield account retweeted the tweet endorsing and displaying the tweet on their Twitter feed. Cargill, however, chose to tweet original information using the *policy* and *animal feed* topics and *industry leader* and *consumer opinion is valued* frames.

Objective Two: Describe the social media narrative outside of the companies' posts

While there were only three tweets coming directly from the five companies, the conversation happening outside the companies' posts included 153 total tweets. During data analysis, these tweets were organized by the company they were directed at and were coded for persuasive frames, common topic, tone and key terminology.

Twelve common topics were identified among the audiences' tweets. Topics were coded using a codebook of expected topics, but emergent topics, such as *animal-free*, *profit* and *environment*, *abuse*, and *animal feed* were also identified during the analysis (Table 4). Coding the tweets for topics illustrates the subject matter audiences were tweeting about to each company. Table 3, below, describes the *a priori* and emergent topics found in the data set in terms of the audiences and frequency of references.

Table 3

Common Topics

Topic	Audiences Using Topic	Frequency of Reference
Abuse	Smithfield	2
	Tyson Foods Inc.	19
Animal Feed	Cargill	10
	Tyson Foods Inc.	3
Animal Handling	Cargill	1
	JBS®	8
Animal Welfare	Cargill	6
	Smithfield	2
	Tyson Foods Inc.	18
Animal-Free	Tyson Foods Inc.	13
Antibiotics	Tyson Foods Inc.	3
Commitment	Smithfield	9
	Tyson Foods Inc. ¹	2
Environment	Cargill	2
	Smithfield	3
	Tyson Foods Inc.	8
Housing	Tyson Foods Inc.	1
Policy	Cargill ¹	45
	Tyson Foods Inc.	1
Poultry	Tyson Foods Inc.	3
Profit	Cargill	1
	Tyson Foods Inc.	1

JBS audiences only spoke of one topic in their posts, *animal handling*, while Tyson Foods Inc. audiences brought up a high of 11 topics. Cargill and Smithfield audiences were in the middle, focusing on six and four different topics.

The topic of *policy* was the most cited. It was tweeted about 45 times by Cargill audiences. Tyson Foods Inc. audiences tended to focus on *the topics of abuse* and *animal welfare*, while Smithfield audiences tweeted about *commitment* the most at nine times.

The least cited topics were only used once to three times. *Housing* was the lowest mentioned topic with one mention from a Tyson Foods Inc. audience member. *Profits* were mentioned twice, and *antibiotics* and *poultry* were both mentioned three times each.

Together, ten frames emerged from the analysis of the tweets. Frames were identified using an codebook of frames that might be expected in animal welfare public dialogue, according to recent literature by Abrams and Meyers (2012), but the codebook grew as new themes began to emerge. For coding purposes, the frames, as written, represent a positive take on the described issue, with a generally positive tone. The tweets portraying a particular frame, however, were not all necessarily positive in tone but regardless of tone were related to the same frame. The descriptions of each frame are listed below:

- *Zero Tolerance for Abuse*-operating under a zero tolerance policy for abuse.
- *Animal care prioritized over profit*-viewing animal care just as, if not more important, than profit from those animals.*
- *Animal Welfare an established responsibility*-working to ensure that animal welfare is at the front of the priority order.*

- *The customer is a valued opinion*-hearing and valuing customer opinions and concerns.
- *Education on animal welfare*-participating in or enforcing educational programs to better understand animal welfare issues.
- *Employees play a role*- working to put employees in place who understand and comply with animal welfare related policies.
- *Environmental impacts*-animal production practices play a role in environmental health
- *Supplying protein to the public*-respecting the animals role as a part of the food chain system that provides the population with animal protein.*
- *Guaranteeing animal healthiness and nutrition* –recognizing and working towards the overall physical and mental health of company owned animals.*
- *Recognized as industry leaders*-excelling in animal welfare standards, the company is viewed as an authority on animal welfare issues.

**a priori* frames (Abrams & Meyers, 2012)

While the tweets were being coded for frames, eight of the frames were those that were developed *a priori*, while *environmental impacts* and *guaranteeing animal healthiness and nutrition* were emergent. Table 4 details the frames by company and frequency of reference. A subscript ₁ beside the company name also denotes that same company references this frame in their animal welfare-related website content (Morris & Miller, 2017).

Table 4

Persuasive Frames

Frame	Companies using Frame	Frequency of Reference
Zero tolerance For abuse	Tyson Foods Inc. Smithfield ₁	15 3
Animal care prioritized Over profit	Cargill ₁ JBS® ₁ Smithfield ₁ Tyson Foods Inc. ₁	3 8 1 4
Animal welfare an Established responsibility	Cargill ₁ Smithfield ₁ Tyson Foods Inc. ₁	3 6 20
The customer's opinion Is valued	Cargill ₁ Smithfield Tyson Foods Inc. ₁	6 1 10
Educational programs are in place	Cargill ₁	2
Employees play a role	Smithfield ₁ Tyson Foods Inc. ₁	2 1
Environmental Impacts	Cargill Smithfield Tyson Foods Inc.	5 3 8
Supplying protein to The Public	Smithfield Tyson Foods Inc. ₁	1 7
Guaranteeing animal Healthiness	Cargill ₁ Tyson Foods Inc. ₁	7 7
Recognized as an Industry leader in animal Welfare	Cargill ₁ Smithfield ₁	48 2

The frames appearing across tweets from audiences of all five companies were varied. The frame *recognized as an industry leader appeared in tweets* by Cargill audiences 48 times, and *animal welfare an established responsibility* appeared in tweets by Tyson Foods Inc. audiences 20 times. These were the most commonly occurring frames, while *educational programs are in place* and *employees play a role* appeared in the least number of tweets, at only 2 and 3 times.

Animal care priorities over profit was the most common frame, appearing in tweets posted by the audiences of Cargill, JBS®, Smithfield, and Tyson Foods Inc.. All of the tweets directed at JBS® contained this one frame, while the other three audiences' tweets included at least seven frames (eight for Smithfield).

The last characteristic described among the audiences' tweets was tone. Using the terminology and presentation of facts or feelings, a positive, neutral or negative tone was chosen. The tone of the tweet was important in understanding the key message the audience member was articulating to their followers. A positive message indicates support of the company while a negative message was indicative of a displeased audience member. Table 5 illustrates the dispersion of the three tones.

Table 5

Tones

Tone	Audiences Using Tone	Frequency of Reference
Positive	Cargill	57
	JBS®	0
	Tyson Foods Inc.	13
	Smithfield	10
	Sysco	0
Neutral	Cargill	7
	JBS®	8
	Smithfield	2
	Tyson Foods Inc.	3
	Sysco	0
Negative	Cargill	1
	JBS®	0
	Smithfield	6
	Tyson Foods Inc.	52
	Sysco	0

Of the three tones, tweets directed towards Cargill were largely positive, 57 tweets, while the majority of Tyson Foods Inc. audiences' tweets were negative with 52 negatives. JBS® tweets were solely neutral, only reporting facts and Smithfield was split 10 to 6, positive to negative.

Objective Three: Determine if social media messages originating from the top 5 animal protein-producing businesses match the companies' articulated website key messages on the website related to animal welfare in terms of topics and persuasive frames.

In a 2017 study, Morris and Miller identified the animal welfare-related website content of the five companies for common topics and persuasive frames. Topics and frames matching the topics and frames mentioned by the companies' twitter audiences could suggest a streamlining of key messages.

Cargill mirrored the *policy* topic in both the website content and tweet but mentioned the *animal feed* topic in the tweet without mentioning *animal feed* on the website at all. Cargill was, however, able to communicate the *industry leader* and *consumer's opinion is valued* frame in both the website and both tweets.

Smithfield was successful in communicating their articulated website messages to their tweet. The Smithfield account used the *animal welfare* topic and *industry leader* frame, both seen on the website.

Objective Four: Determine if the social media narrative outside of the companies' posts support these characteristics

The common topics and persuasive frames were assigned to the animal welfare related website content of each of the five companies. In Tables 3 and 4, a subscript ₁ beside the company name denotes that the frame or topic was also addressed in the company's website content (Morris & Miller, 2017). This would suggest that the corporate key messages were also observed in the audiences' participation in the public dialogue through Twitter.

While most companies saw repetition of frames from their website to their audience's tweets, the topic repetition was more sporadic. Because of the larger number of emergent topics in the audiences' tweets, only two topics were mentioned in both the websites and tweets. The Cargill audience also mentioned *policy* as a topic while the Tyson Foods Inc. audience brought up the *commitment to animal welfare* mentioned on their website, as well (Table 3).

The eight JBS® audience tweets cited the *animal care prioritized over profit* frame and it was also one of the key articulated messages on their website (Table 4). Cargill was the next most consistent in terms of communicating frames. Of the frames their audience used, Cargill

used all but the *environmental impacts* frame in their website messages (Table 4). The Tyson Foods Inc. audience did not communicate the *zero tolerance for animal abuse* frame that was mentioned in their website content, however (Table 4).

Conclusions and Discussion

General Characteristics

It became apparent that the companies' audiences far out weighed the number of tweets coming from the companies themselves. The tweets were collected within a six month period, from November 2016 to May 2017. Within that time Cargill only tweeted related to animal welfare twice, Smithfield once and Sysco, JBS®, and Tyson Foods Inc. did not tweet at all. While it was surprising that only three tweets resulted from the collection, this demonstrates the companies' commitment to not directly addressing animal welfare related conversations on social media. It has been related in literature that while these companies understand their policies, the methods and reasoning can sometimes get lost in translation when communicating to the audience eventually misconstruing the information (Conway, 2012). Therefore, not tweeting about animal welfare or keeping corporate communications about animal welfare to a minimum appears to be a tactic of the animal protein producing companies.

The audiences, however, did not have a shortage of tweets directed at the companies. There were tweets directly tagging the companies, retweets from other audience members and retweets of tweets originating from the individual companies themselves. Overall, there were 156 audience member tweets. Tyson Foods Inc. and Cargill were the most engaged companies while Sysco audience member did not tweet regarding Sysco animal welfare practices.

Common topics and persuasive frames relating to animal welfare within the each companies' twitter account

As mentioned above, there were only three tweets originating from the corporate twitter accounts. Despite the low number of tweets, these three tweets were retweeted a total of 28 times. Being retweeted by 28 audience members speaks to the relevancy of the tweets. While the companies are not willing to share a large amount of specific animal welfare information on twitter, the core messages are still being spread to different audiences by way of retweets.

The topics ranged from *animal welfare, policy* and *animal feed*. As would be expected, the tweets stayed true to the corporate position frame of being *recognized as an industry leader* frame in two out of the three tweets.

Based on the sparse number of tweets coming from corporate twitter accounts, social media posts relating to specific animal welfare information or responding to audience concerns expressed on social media is rare. The use of congruent frames, such as *industry leader*, is an important tactic used by communications professionals to direct the reader to understand what is relevant to discussion (Hertog & McLeod, 2001). In this case, both Tyson Foods Inc. and Smithfield demonstrated the importance of each audiences understanding that the company views itself as an industry leader.

Social media narrative outside of the companies' posts

There was not a shortage of posts originating from the companies' audiences. There were a total of 156 posts tweeted by the public either tagging one of the companies or speaking about one of the companies. Tweets were split between a positive and negative tone. There were a total of 80 positive tweets, 59 negative tweets and 20 neutral tweets. Positive toned tweets spoke to the credibility of each company while the negative tweets often pointed out animal welfare

shortcomings of each company. Interestingly enough, Cargill audiences dominated the positive tweets with 57 while Tyson Foods Inc. audiences dominated the negative tweets with 52. This is an important point as being able to control a businesses social media narrative is a key media skill (Mangold & Faulds, 2009).

The topics used by the audiences centered on *policy*, *animal welfare* and *abuse*. Audiences also tended to stay away from mentioning specific topics such as *housing*, *antibiotics* and *poultry*. The reason for this could include inexperience in agricultural related practices as only 1% of the population is involved in agriculture (United States Department of Agriculture National Agricultural Statistics Service, 2007).

However, the public is able to recognize and willing to report shortcomings in animal welfare, thus the influx of negative tweets pointing to animal abuse.

In terms of frames, being *recognized as an industry leader* surfaced as the most used frame, being cited by Cargill audiences the most. Also frequently cited frames include *animal welfare as an established responsibility* and a *zero tolerance for abuse*. It is important to note that tone is an important consideration when understanding the frames used. For example, the *zero tolerance for abuse* frame was used in a negative tone, as well. This moved the meaning of the frame away from a *zero tolerance for abuse* to a pointing out of or accusing of abuse from an audience member.

Does the social media messages originating from the top 5 animal protein-producing businesses match the companies' articulated key messages related to animal welfare in terms of topics and persuasive frames

Morris and Miller conducted a content analysis to describe the animal welfare related website content of the same top five animal protein producing companies in terms of persuasive

frames, topics and terminology (2017). Comparing those results with the persuasive frames and topics found in the tweets originating from these companies can determine if there is congruency between the website key messages and the messages being published on Twitter.

While the three tweets used three different topics, Cargill used the *policy* topic, which was also the topic that each of the five companies frequently used in their website content. The only outlier was the animal feed topic used by Cargill. This topic was not used in their website content. In terms of frames, it is easy to see that on both the animal welfare related web pages and in two of the three collected corporate tweets, being recognized as an industry leader is of the utmost importance. In the website content, being recognized as an industry leader was the most cited frame across the five companies (Morris & Miller, 2017). It also was the most cited frame in the three corporate tweets.

Croney explains the responsibility and importance of animal agriculture companies not only doing right by the animals but also correctly translating those animal welfare principals to the public (2012). This responsibility spans the company from the leaders establishing the corporate positions on animal welfare to the media specialists publishing website and social media content. The goal is the same, to remain transparent and consistent across platforms.

Does the social media narrative outside of the companies' posts support these common topics and persuasive frames

The social media narrative outside of each company varied. JBS® audience tweets were exclusively neutral, simply reporting facts, Cargill audience tweets were predominantly positive and Tyson Foods Inc. audience tweets were largely negatively toned. This could mirror the companies' ability to mold the social media narrative outside of their own accounts as their website content was exclusively positive (Mangold & Faulds, 2009). Cargill was successful in

molding the Twitter dialog to be largely positive while Tyson Foods Inc. was not as successful, as the majority of the audience tweets were negative. Frames such as *industry leader* were communicated in both the animal welfare related website content and audience tweets. While topics, such as *animal welfare* and *policy*, stayed more general than specific in both the websites and twitter messages.

Cargill and Smithfield had success communicating the *industry leader* frame in both their website and twitter pages, however the fewer topics from the website were not seen in the overall twitter dialog. The frames and topics that were translated to the twitter dialog from the websites were the more general such as the *animal welfare* topic and *industry leader* frame. The average twitter user is not educated enough on animal production issues and terms to be able to use specific topics and frames such as *antibiotics* and *housing*. According to a USDA census, less than 1% of the United States population is involved in agriculture (2007). If the audience isn't educated on specific topics, companies will find better success tweeting about those general topics. *Animal welfare* and *policy* topics framed with *being recognized as an industry leader* were the most successful tweets in the audience dialog due to their understandability.

Recommendations for practice

Communications professionals at each company should use the results of this analysis as an evaluative tool to determine if the web based key messages are being communicated on social media account when posts are being made. While the posts are few and far between, a consistency in message is a must. It is the responsibility of not just industry leaders but media professionals, alike, to contribute to the transparency of the animal production system (Croney, 2012).

Agricultural communication professionals should use these findings as a tool to evaluate their ability to mold the social media conversation surrounding their business and communicate their key messages to their audiences. Consumers report not having a reliable source of information regarding animal welfare practices (McKendree et al., 2014), therefore, a united message across the animal protein industry would provide consumers with consistent sources of information. Understanding the social media conversation of the audiences could provide companies a tool with which to evaluate if their key animal welfare messages are being correctly communicated.

Recommendations for further research

Further research should include matching these content analysis results with the existing communication strategies of each company. Determining whether or not corporate communication strategies are being accurately executed could lead to a streamlined channel of communication between companies and consumers.

More content analysis studies should be conducted by comparing animal protein companies' website content with other social media platforms such as Facebook. Social media is a product of rapidly evolving, technology driven communication efforts (Symonenko, 2007), thus further research regarding these outlets could help communication professionals and animal protein companies contribute to a more transparent animal welfare conversation.

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Chapter Four: Conclusion

The two articles presented in this thesis explore the media efforts of the top five animal protein producing companies in the United States. Both the animal welfare related website content and the animal welfare related tweets originating from both the companies themselves and each of their audiences were described in this study. It was determined that while it is rare for a company to use social media as a platform to communicate animal welfare related issues, they do communicate their articulated corporate positions. Each of the five audiences' messages varied based upon their positive, neutral or negative tone.

It is important for companies to provide consumers with clear information on animal welfare, such as their websites, and the frames, topics and terminology define and shape which messages are relevant to their audience (Hertog & McLeod, 2001). It also is imperative that companies correctly convey corporate position on animal welfare in their social media accounts in an attempt to remain transparent and control the social media narrative outside of their corporate accounts (Mangold & Faulds, 2009). These measures translate to a cohesive communication strategy.

In the first article, the animal welfare related website content of Cargill, Tyson Foods Inc., Smithfield, JBS® and Sysco were analyzed for persuasive frames, common topics and key terminology in an effort to describe their corporate positions on animal welfare. It was found that the word count and complexity of each website varied. Sysco dominated the word count with 1,045 words while JBS® only used 265 words to communicate their views. Each company also used a unique technique to explain their corporate position from pledges and goals to views and mission statements. The predominant frames were being *recognized as an industry leader* and *animal care vs profit* while the most cited frame was easily *policy*. Recommendations were made

to further investigate the communication strategies of animal protein companies and use these findings as a comparative tool across the industry. The full results of the content analysis can be found in Chapter II of this thesis.

In the second article, researchers conducted a similar content analysis on the Twitter efforts of the five companies and their audiences. Tweets relating to animal welfare originating from the five companies and each of their audiences were collected from November of 2016 to May of 2017 and were coded for persuasive frames, common topics and tone. Results from both studies were then compared between the companies and the audiences. It was found that it is common practice for the companies to tweet regarding animal welfare rarely, only tweeting a total of three times in the six month period. No tweets were found in which the companies directly addressed an audience member. Cargill and Smithfield, the only two companies to produce tweets, were able to communicate key animal welfare messages, such as being an animal welfare *industry leader* and *policies*, in both their websites and tweets. The other 156 tweets consisted of audience members tweeting at or mentioning one of the five companies. While the audience members also communicated the *industry leader*, *animal care vs profit* and *zero tolerance for abuse* frames, the tones, positive, neutral or negative, played a role in defining the audience members key message. Cargill's audience produced the most positive tweets with 57, while Tyson Foods Inc.'s audience was predominantly negative with 52 total negative tweets. Recommendations included communication professionals using this analysis as a tool to determine of key messages are being articulated from the central website to social media posts. Further research should include an analysis of another social media platform such as Facebook. The full results of the content analysis can be found in Chapter III of this thesis.

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