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How Does the Fortune 500 Use Twitter to Engage Stakeholders? An Examination of Interactivity, Message Valence, and Company Type

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UNIVERSITY OF MIAMI

HOW DOES THE FORTUNE 500 USE TWITTER TO ENGAGE STAKEHOLDERS?
AN EXAMINATION OF INTERACTIVITY, MESSAGE VALENCE, AND
COMPANY TYPE

By

Michael North

A DISSERTATION

Submitted to the Faculty
of the University of Miami
in partial fulfillment of the requirements for
the degree of Doctor of Philosophy

Coral Gables, Florida

August 2015

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HOW DOES THE FORTUNE 500 USE TWITTER TO ENGAGE STAKEHOLDERS?
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How Does the Fortune 500 Use Twitter to Engage Stakeholders? An Examination of Interactivity, Message Valence, and Company Type

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This study examines how Fortune 500 companies use Twitter on a daily basis. Chapters include an introduction explaining the importance of Twitter to companies by discussing some of the most damaging 140-character reputational mishaps and some impressive crisis management strategies executed within the Twittersphere. A comprehensive literature review is presented beginning with a discussion of computer-mediated communication (CMC), interactivity, word-of-mouth (WOM), message valence, and ending with a section differentiating between business-to-consumer (B2C) and business-to-business (B2B) companies. Lastly, the methodology, operationalizations, and research design are presented to examine companies' interactivity with users, message valence, how B2Bs differ from B2Cs, and how long users can expect to wait for a company to respond to their tweet.

This study contributes to the existing literature pertaining to corporate social media use in a number of ways. First, many prior social media studies examine how companies operate during a time of crisis or during other one-off situations. This longitudinal study examines how companies use Twitter on a daily basis over the course

of five years (from 2009 to 2013). Secondly, typical social media studies use a sample of a few hundred posts, tweets, or messages. This study has a sample size of nearly 10,000 tweets, further adding to the importance of the results. Lastly, companies use social media primarily as a public relations tool. Social media communication that promotes products to generate sales is not appreciated by users who feel that advertising is invasive. For this reason, companies use social media as a public relations instrument to influence perceptions, strengthen the brand, and solidify reputation. This study contributes to public relations literature by involving social media and modernizing the discipline in a time when the world is trading information online in 140-character increments.

To Mom, Dad, Zack, and Hannah: Thanks for being there every step of the way.

Small thanks to Blondie who was there at the start and to Molly who is here now.

Statement of Acknowledgement

I asked one of my former professors to write a letter of recommendation for my Ph.D. application and when I was accepted into the program, I thanked this professor in an email. Almost immediately, the professor emailed back and said, “Don’t thank me. It will be the hardest three years of your life.”

This professor was not lying. My coursework, the classes I had to teach, and this past year of qualifying exams, the proposal, and the dissertation added up to be a mountain of work. I have lost count of the four-hour nights of sleep and my lap probably has permanent burn marks from typing for hours on end, but I have a sense of accomplishment that feels incredible.

However, none of it would have been possible without my committee. I heard horror stories of committees either refusing to work together or showing no interest in the student’s work. Not only is this a committee of good friends, but they also showed real attentiveness to my progress in this past, trying year.

Dr. Bloom and I worked together on many projects in my first two years at the University of Miami before she accepted a job at Quinnipiac. She has been there from the very beginning and has been a vital resource for me these past three years.

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CHAPTER 1: INTRODUCTION

Twitter was characterized as a microblog when it launched in 2006 and that loaded designation brought derision from the online community. Critics of Twitter dismissed the novel social media site as “an obscure medium” that was “an exercise in narcissism” because of the numerous early tweets about what this user was having for breakfast or how that user felt about being stuck in traffic (Associated Press, 2013). However, Twitter began to display its full potential during Arab Spring and proved so useful that scheduled maintenance for the social media site in San Francisco was delayed so Middle Eastern protesters could continue to communicate during a particularly important period of time (Useem, 2011). Twitter possesses the ability to not only close the distance between those separated by physical distance but also narrow the gap between those on the opposite ends of the socioeconomic spectrum. In the wake of the non-indictment of the police officer who killed Eric Garner, rich, poor, and anyone in between from ordinary citizens to celebrities such as LeBron James, were united by the #ICantBreathe hashtag. This Twitter collective, a total nearing 500 million users (Bennett, 2014), is an attractive audience for businesses but also a quick and potent group that can pounce on the slightest corporate social media misstep.

Companies view social media as a means to communicate directly to potential customers but also as a tool to shape reputation. Certainly, some companies use social media for advertising, but if it is too overt, users can potentially disengage as people tend to prefer product placement in movies over the perceived invasiveness of social media advertising (Scott & Craig-Lees, 2010). For this reason, companies operate social media from a public relations perspective rather than from an advertising stance. Every tweet,

post, or message is an attempt to interact with the purpose of building goodwill that solidifies corporate reputation. The preferred tone of social media is an informal one that borders on humorous and can sometimes be snarky. With this in mind, companies take on a substantial risk with every attempt at using social media to communicate with the public as the public does. It is a fine balance that can lead to a cult following or to ruin.

Past social media transgressions can be difficult to overcome. JP Morgan Chase played a significant role in the financial meltdown in 2008 as analysts noted that the financial institution paid more in fines and legal fees than in payroll during the crisis (Holmes & Sudhaman, 2014). In the midst of paying out a \$13 billion fine, JP Morgan Chase's social media team decided to hold an #AskJPM session to field questions from the public (Holmes & Sudhaman, 2014). While the bank's heart may have been in the right place because interaction is usually an intelligent strategy, JP Morgan Chase's timing left much to be desired. Twitter users, struggling with rising unemployment and diminishing home values, focused their vitriol at JP Morgan Chase and what was designed to be a quality discussion turned into about 24,000 tweets of "anger and sarcasm directed at the company leading JPM to quickly cancel the event" (Holmes & Sudhaman, 2014).

The #Ask technique is designed to initiate online conversation but as mentioned before, Twitter users are quick-witted with long memories. Initiating conversation is usually recommended for brands and personalities, but some transgressions are just too heinous to ever forget. For instance, Florida State University's social media team initiated a #AskJameis session so fans could ask Heisman Trophy and National Championship winner Jameis Winston some questions on Twitter. However, the star quarterback had

been accused of rape, stealing soda at a Burger King, questioned about a BB gun incident, and issued a civil citation for stealing crab legs from a Tallahassee Publix (Chasmar, 2014). Predictably, the public jumped at the opportunity to criticize Winston with users crafting tweets such as: “Hey @Jaboowins, how do you expect to evade defenses next year if you couldn’t even dodge Publix security guards?” and “What’s more difficult to evade, a rape charge, a publix employee, or Auburns defense?” (Chasmar, 2014). Florida State’s social media team admitted that they anticipated some negativity but not to the extent of a national news story for all the wrong reasons and that naivety was perfectly summarized by a tweet that said: “I’m over here looking for a job while somebody in Florida State’s marketing dept thought #askjameis would be a good idea. Life isn’t fair” (Chasmar, 2014).

According to the cliché, those who do not study history are doomed to repeat it. Not long after the #AskJameis disaster, the social media team for Bill Cosby challenged his followers by asking them to “meme me” with a meme creator designed to combine humorous pictures from Cosby’s career with a short punchline (Aurthur, 2014). What was supposed to be a fun exercise to subtly promote Cosby’s upcoming sitcom disintegrated into a contest among Twitter users to develop the best meme to mock Cosby’s 2006 rape allegations (Aurthur, 2014). The tweet was deleted, the meme generator was deactivated after only a few hours, and Cosby has been under intense scrutiny as more alleged victims came forward to tell their stories (Aurthur, 2014).

Even seasoned social media pros working for brands devoid of negative history can commit missteps for the world to see. In an attempt to piggyback on “Serial”, the popular podcast that discusses murder, Best Buy tweeted: “We have everything you need.

Unless you need a payphone. #Serial”, referencing how one of the murder victims was killed outside a Best Buy trying to find a payphone to call for help (Read, 2014). A poor attempt at humor but not nearly as sad as the Dave & Buster’s tweet deleted just 40 minutes after it was posted that said: ““I hate tacos’ said no Juan ever #TacoTuesday #DaveandBusters” (Read, 2014). Sometimes a simple tweet is just untimely. The Boston Red Sox asked their more than 900,000 followers on Twitter, “How was everyone’s Monday?” (Read, 2014). Harmless, but this tweet appeared about 30 minutes after the grand jury did not indict Ferguson police officer Darren Wilson in the shooting death of Michael Brown (Read, 2014). It was not the intent of the Red Sox to make light of the protests and a community that felt disenfranchised, but that was the perception and the team removed the tweet in less than an hour (Read, 2014).

In much the same way as Best Buy’s poor attempt to latch onto the success of popular entertainment, the DiGiorno social media team noticed the trending hashtag of #WhyIStayed and incorporated into an ill-advised tweet that read: “#WhyIStayed Because you had pizza” (Mullins, 2014). The mistake was that the DiGiorno social media team did not research the meaning behind the hashtag. The #WhyIStayed hashtag was trending, along with #WhyILeft, in response to the Ray Rice domestic abuse scandal and the hashtags were included in tweets from victims courageously recounting their own domestic abuse stories to shed light on the extent of the problem in the United States (Mullins, 2014). The response was swift and severe. Numerous offended users retweeted DiGiorno’s tweet and engaged with the pizza company for the world to see with tweets such as this: “It’s not domestic violence, it’s DiGiorno” (Mullins, 2014). DiGiorno

deleted the tweet, issued a statement of apology, and curiously engaged with each and every user further lengthening the news cycle of the mistake (Mullins, 2014).

DiGiorno's strategy to engage with every user angered by the company's mistake runs counter to what is recommended. Coombs' Situational Crisis Communication Theory advises that "using overly accommodating strategies when unnecessary actually can actually worsen the situation. Stakeholders begin to think the crisis must be worse than they thought if the organization is responding so aggressively" (Coombs, 2007, p. 173). DiGiorno made an insensitive mistake and probably should have issued one overall apology. Instead, engaging with each angry user only prolongs the life of the mistake. Justine Sacco, the former global head of communications at IAC, tweeted, "Going to Africa. Hope I don't get AIDS. Just kidding. I'm White!" before her plane took off for South Africa last year (Biddle, 2014). Sacco only had a few hundred followers, but various news outlets published the tweet online including #HasJustineLandedYet as the hashtag, which trended globally (Biddle, 2014). Not surprisingly, Sacco lost her job and was raked over the coals for being a racist, but she contended that the tweet was merely mocking what someone ignorant to the fact that AIDS is a significant problem in the United States would say. It took a year, but Sacco is working in public relations again and she learned it is best to "Just don't engage" (Biddle, 2014). With a maximum of 140 characters, subtlety or nuance is lost in a tweet and a proper level of contrition is difficult to convey so it is best to "Do nothing. Never tweet. Never apologize. Never say anything at all. Be an inert bundle of molecules and let the world tear itself apart around you" (Biddle, 2014).

Social media can be a useful tool for companies but can also lead to reputational ruin, and because sites such as Facebook and Twitter are still relatively new, few theories exist that are designed to help companies use social media effectively. Coombs has updated his Situational Crisis Communication Theory to the Social Mediated Crisis Communication model by taking into account the very public interaction inherent with social media. Coombs refers to this as a paracrisis, or a “situation where managers must address a crisis risk in full view of its stakeholders”, and if this paracrisis is mismanaged “it can escalate into a crisis” (Coombs, 2014). Realistically, every situation is different and companies should observe what has worked well in the past. Southwest Airlines began tweeting minutes after Flight 345 landed nose first at LaGuardia Airport and continued with open and honest social media posts throughout the ordeal (Fisher, 2013). This approach was appreciated by the public and helped solidify Southwest’s reputation as a company that cares. In a classic case of confusing the personal and company Twitter account, the American Red Cross tweeted: “Ryan found two more 4 bottle packs of Dogfish Head’s Midas Touch beer... when we drink we do it right #gettingslizzerd” (Fisher, 2014). The Red Cross deleted the tweet and used some clever humor to diffuse the situation by tweeting: “We’ve deleted the rogue tweet but rest assured the Red Cross is sober and we’ve confiscated the keys” (Fisher, 2014). To further convey that it was simply a mistake by one employee and not a corporate message from Red Cross, the employee who used the #gettingslizzerd hashtag issued an apology from her own personal account that said: “Rogue tweet frm @RedCross due to my inability to use hootsuite... I wasn’t actually #gettingslizzered but just excited! #nowembarassing” (Fisher, 2014). Red Cross deftly shifted responsibility and avoided an apology while

using a little humor to lighten the mood. Lastly, a teapot sold by JC Penney was thought to slightly resemble Adolf Hitler and the story gained enough traction in the media that JC Penney had to issue a response (Fisher, 2014). Obviously, JC Penney did not intentionally manufacture a product that looks like Hitler, but the Internet is not logical. JC Penney decided to use a scripted tweet in response to questions about the issue that said: “Totally unintentional. If we had designed it to look like something, we would have gone with a snowman or something fun :)” (Fisher, 2014). Each response was slightly different to give the impression that the user was receiving personal attention (Fisher, 2014). Not only did JC Penney avoid a dip in sales, but the teapot proved to be a popular item with customers (Fisher, 2104).

These are examples of high-stakes situations concerning both positive and negative outcomes that are extremely rare. These examples do illustrate how important social media are to companies and how one misstep can damage a company’s reputation. Most of the time, however, companies operate social media accounts with the intent of keeping the brand in the forefront of consumers’ minds. High leverage situations, such as the Red Cross or DiGiorno examples, are uncommon but are remembered and are often studied. British Petroleum’s multiplatform social media response to the Deepwater Horizon spill was not overly successful but it was appreciated (Diers & Donohue, 2012), while Carnival Cruise Lines’ social media response to the Costa Concordia disaster was met with scorn and derision for being too impersonal (Gantt, 2013). It is difficult to know what will work and what will not, but the time-honored tenets of speed and sincerity generally work best during a time of crisis, especially in the era of social media.

However, few studies exist on the day-to-day social media interactions of companies. This dissertation examined almost 10,000 tweets from the Fortune 500 between the years of 2009 to 2013. Tweets were randomly selected from the 420 companies with Twitter accounts and retweets, replies, and favorites were counted. Additionally, each tweet, along with the most recent two replies, were content analyzed for purpose, dialogic characteristics, and company response strategy to user tweets. This study aims to explore the interactivity between companies and users on Twitter and the levels of interactivity. Reply valence in terms of positivity and negativity is also analyzed. Additional variables in this study include business-to-business (B2B) versus business-to-consumer (B2C) Twitter accounts and time elapsed between a user's inquiry and a company's response. To frame this study from a theoretical perspective, theories involving interactivity, social media, electronic word-of-mouth (eWOM), message valence, public relations, and information regarding the differences between how B2Bs and B2Cs use social media will be presented in the following literature review. These theories will help formulate the hypotheses and research questions.

CHAPTER 2: LITERATURE REVIEW

This particular study examines Twitter, and not other social media platforms, so an analysis of Twitter and its functions is necessary to understand what a company is hoping to achieve with a hashtag or picture within a tweet. To understand Twitter's impact on business reputation, it is important to examine word-of-mouth (WOM) and electronic word-of-mouth (eWOM) because as a social media platform, Twitter functions as an idea-sharing forum where users can champion various brands and criticize others. This is word-of-mouth running in real-time. The foundation of word-of-mouth is interaction and Twitter's functionality only encourages interactivity through the use of hashtags, @ mentions, and direct messages. Therefore, it is essential to understand interactivity and how the concept influences the transmission of information through word-of-mouth. Importantly, purely neutral messages are rare and the vast majority of tweets elicit some effect on users. For this reason, it is essential to understand message valence and the effect this concept has on both the company and the audience. Negativity in advertising has been a valuable tool in displaying transparency and credibility, but control of the message has shifted with the advent of social media, and it is important to analyze message valence with online communication in mind. Computer-mediated communication is the vehicle by which messages are exchanged on social media. But communication through computers is nothing like face-to-face communication and therefore, computer-mediated communication must be analyzed as it is the driving force that dictates the tone and strategies utilized in corporate social media campaigns. A discussion of the differences between business-to-consumer (B2C) and business-to-business (B2B) companies is vital because these are the companies under review in this

study. B2C companies are examined first because consumers were the first to gravitate toward social media and Twitter bringing with them companies interested in advertising to these users. B2B companies are examined next because these companies are still debating whether adopting social media is a worthwhile strategy. The aforementioned topics are discussed at length below.

Twitter Overview

The specific social media platform and computer mediated communication (CMC) method under review in this study is Twitter so a complete overview is necessary to understand what is meant by hashtags or direct messages. The following section provides information about Twitter and meaning behind each one of its functions.

Since 2006, the world has seemingly shared information 140 characters at a time through Twitter. The social media website attracts hundreds of millions of users per month who post about 150 million tweets each day (Schmierbach & Oeldorf-Hirsch, 2012). Twitter's adoption rate has been compared to brushfire so many of the statistics are already old news. However, one achievement that appears to remain safe is the fact that Twitter is one of the top 10 most visited websites on the Internet (Fitzgerald, 2012). With the sheer number of users, the Twitter universe can resemble a cluttered collection of informational tidbits, but the website is more than just ambient noise featuring "greetings, weather, small talk, emotion, and meta-commentary" (Schandorf, 2012, p. 334); it is a medium for people to gratify a need to connect and belong to a group (Chen, 2011). However, even these groups on Twitter can be exclusive. Celebrities tend to follow other celebrities, bloggers tend to follow other bloggers and members of the media

will follow their peers in journalism (Wu et al., 2011). The process is akin to subscribing to content from other like-minded users and this is better characterized as clustering (Himmelboim, McCreery & Smith, 2013, p. 155).

Regardless of the group, those with the most followers are often perceived to have the most influence on Twitter. However, while a massive online following can elevate a user's cachet, a large number of followers do not exude as much influence as retweets or mentions on Twitter (Cha et al., 2010). With only about 0.05% of the Twitter population accounting for half of all posted Internet links within tweets, the concept of increasing influence through sharing online information is still relatively novel (Wu et al., 2011). But not all shared links are viewed equally. Links involving news stories tend to be short-lived or shared for a shorter period of time, links to blogs are shared for a longer period of time, and links to music or videos can seemingly exist indefinitely in the Twitter universe (Wu et al., 2011). Armed with a newfound ability to share information through retweeting, mentioning, or linking at a rate never before seen in modern technological history, the public has shifted from being an "empty receptacle waiting for news" to an active participator in the news process through Twitter (Hermida, 2010). There is also a cool factor attached to Twitter in that Facebook is a group of people you went to high school with while Twitter is a group of people you wish you went to high school with (Schandorf, 2012).

From a nuts-and-bolts standpoint, users on Twitter become connected by following other users, "exposing [themselves] primarily to the messages authored by the people [they] select" (Himmelboim, McCreery & Smith, 2013, p. 155). Essentially, users add to their view by following other users as Twitter newsfeeds are only populated with

content generated by those the user is following. Twitter's major differentiator is its brevity, perfectly symbolized by its strict 140-character limit on every tweet. There is no mechanism that allows for users to add more characters to the 140-character limit, thereby providing equal footing to users to transcend "barriers of space, time, money, and traditional media" (Himmelboim, McCreery & Smith, 2013, p. 160).

Schandorf (2012) characterizes the various functions on Twitter as deictic gestures which are "indicative, indexical or pointing actions that instantiate often implicitly or explicitly hierarchical or spatiotemporal relations" (p. 325). Basically, deictic gestures convey more meaning than silence and do so quickly with a broad understanding by users. Schandorf (2012) refers to hyperlinks, retweets, direct messages, @ mentions, hashtags, and favorites as deictic gestures. Hyperlinks transport the audience to a page the user wants to promote and in so doing, tells a good deal about the user as well (Schandorf, 2012). Retweets, a function unique to Twitter, "point back to the original source of a message, while also implicitly pointing to the person doing the retweeting and making explicit a connection between the two interactants" (Schandorf, 2012, p. 325). Retweets endorse the original tweet, support the original tweeter, and define the user doing the retweeting. A direct message is a personal, one-to-one form of communication similar to email but still constricted by Twitter's 140-character limit (Schandorf, 2012). The @ mention is a means to notify a Twitter user and "point to others whom the author of the message wants to draw attention to" (Schandorf, 2012, p. 325). According to Schandorf (2012), a hashtag is an organizing tool that collects tweets and groups the messages forming "phenomena of social interest" (p. 325), but are not always successful in generating the coveted trending status. Favorites are a simple

endorsement of a tweet in much the same way Facebook uses Likes as a measure to rate how many people enjoy the content posted. Even the avatar or picture used on Twitter provides meaning by describing what the user looks like or by conveying a visual message as to who is acting on Twitter (Schandorf, 2012). A typical tweet includes a hyperlink and a brief opinion of the content brought about by clicking on the link (Schandorf, 2012), leading many to characterize Twitter as water cooler talk where users discuss the news of the day.

Anecdotal evidence from using Twitter applies additional meaning to replies, retweets, and favorites. Simple observation points to effort level as an important factor to take into account. Replies require the most effort to craft and this points to significant emotion, be it positive or negative. Positive replies usually are crafted to self-validate or to show off to others, leading to dismissal from others (Chen & Lurie, 2013). Negative replies stem from anger or disappointment, lead to more replies, and are valued by others (Chen & Lurie, 2013). Replies tend to skew negative as the format lends itself to being a customer service forum, and much of Twitter tends to be negative. On the other hand, retweets and favorites tend to be positive on Twitter. Retweets condone or endorse the original tweet leading to feelings of positivity. Schandorf (2012) writes that being retweeted is a “form of legitimacy” (p. 326). Retweets are a way for users to “quote” interesting tweets and to say a little about themselves too. Occasionally, retweets are used to call attention to particularly offensive or stupid tweets because retweeting captures the tweet as is while copying and pasting the tweet is perceived to be less credible. However, retweets are predominantly positive. Lastly, favorites are a positive and simple way to endorse a tweet. The word, “Favorite”, implies positivity in much the same way “Like” is

used on Facebook. Recently, Twitter started to record users' favorites and made them public for other users to view. This will probably influence what users favorite on Twitter and further lead to positive favorites that users would want others to see.

Many previous studies use the term "engagement" to encompass the user response to a company's tweet. True engagement on Twitter is a conversation or dialog. This is difficult to measure and to work with so researchers often characterize engagement as the number of replies, retweets, and favorites. This research follows suit and uses the number of replies, retweets, and favorites to measure engagement. Additionally, this research examines interactivity and company response time to examine the conversational aspects of true engagement. In sum, whether companies are engaging with users or not along with how companies are engaging are both examined.

This research examines how the Fortune 500 uses Twitter but also collects data from 2009 to 2013. The years and number of tweets in the sample offer an opportunity to analyze the trends of Fortune 500 Twitter use, which is the first research question.

RQ1: *What are the year-to-year trends of Fortune 500 Twitter use from 2009 to 2013?*

The second research question focuses on company size and Twitter engagement; specifically, if there is a correlation between Fortune 500 ranking and engagement.

RQ2: *Is there a relationship between Fortune 500 ranking and engagement in the form of replies, retweets, and favorites?*

Computer-Mediated Communication

The following discussion concerns computer-mediated communication because this is the vehicle by which WOM, interaction, and message valence are transferred in this study. It is important to understand that communication through an online platform such as Twitter is vastly different than communicating face-to-face.

Communication is the process by which a sender transmits a message to a receiver with the intent of eliciting a response. Traditional communication, and much of communication literature, is face-to-face with many studies examining communication mediated by mass media devices such as print, radio, and television. The focus now for communication study is computer-mediated communication, a discipline more than 50 years old (Hardaker, 2010), and is simply computer-related technology that “facilitates two-way interpersonal communication among individuals or groups” (Santra & Giri, 2009, p. 101). Computer-mediated communication (CMC) is a broad term that includes any communication transmitted through technology such as computers, laptops, cell phones, social media, and even video platforms such as Skype. CMC is basically human communication via computers with the expectation of a timely response (Meluch & Walter, 2012). CMC falls into two categories: asynchronous, which is the staggered communication similar to email, and synchronous, which is the highly interactive communication that is similar to instant messaging (Santra & Giri, 2009). Early opinions regarding CMC were somewhat negative. CMC was characterized as impersonal, unable to persuade, and lacking in necessary audio and visual cues to communicate effectively (Wrench & Punyanunt-Carter, 2007). Meluch & Walter (2012) contend that collaboration is easier in face-to-face settings than in the realm of CMC. However, CMC is ubiquitous

as Pew Research found that 93% of respondents used email, 25% communicated in a chat room, and 24% used instant messaging (Wrench & Punyanunt-Carter, 2007).

Many advantages exist in using CMC at an organizational level. CMC reduces costs, makes information available to all, allows for employees to spread out all over the world, and allows for employees to work from home (Santra & Giri, 2009). Additional positives include CMC's ability to diminish the effects of race, gender, and organizational status to influence everyone to communicate from an equal footing (Santra & Giri, 2009). Opinions and suggestions tend to flow with more ease in a CMC environment because social pressure is greatly reduced and the concept of production blocking is eliminated, which is the "lack of opportunity to express opinion due to too many people speaking at a time" (Santra & Giri, 2009, p. 106). Judgment is also greatly reduced in CMC discussions along with the fear of not receiving credit for ideas (Santra & Giri, 2009). But without face-to-face cues, CMC relationships tend to take much longer to develop and to establish enough trust to be valuable (Wrench & Punyanunt-Carter, 2007).

While slow developing, CMC relationships are just as "lasting and meaningful" as face-to-face relationships (Wrench & Punyanunt-Carter, 2007, p. 357). Notably, CMC has become so ingrained into our society that many users do not alter their online personas from their day-to-day offline selves (Wrench & Punyanunt-Carter, 2007). Competent CMC users, according to Wrench & Punyanunt (2007), are concerned about their partner in communication, demonstrates control of the time communicating, displays emotion in a skillful way, and shows a level of self-control when communicating to demonstrate aptitude. Users are improving in CMC competency and are

“economizing” the language, but these terse messages are not a display of impoliteness (Meluch & Walter, 2012).

Rather, short messages bordering on the abrupt are the norm, but that does not mean CMC is lacking in depth. Private thoughts and intimate feelings are conveyed often within CMC environments leading to strong relationship quality (Jiang, Bazarova & Hancock, 2013). Much of the literature concerning CMC examines the frequency of intimate disclosure but not the depth. Even though much of the communication within CMC is between people sharing loose ties, the anonymity, lack of nonverbal cues, and necessity to converse quickly leads users to share more than they normally would in a face-to-face setting (Jiang, Bazarova & Hancock, 2013). Users will incorporate uncertainty reduction strategies such as asking questions quickly and more often than in face-to-face conversations (Jiang, Bazarova & Hancock, 2013). Questions are imperative to the reduction of uncertainty and a substantial proportion of communication within CMC are questions (Antheunis et al., 2012). While conversations and information gathering can happen quickly with CMC, it does not mean that these interactions have little effect. Users have a tendency to emphasize the most minute characteristics and “idealize their partners when the messages suggest minimal similarity or desirability” while developing “more extreme impressions of each other’s personality traits” (Jiang, Bazarova & Hancock, 2013, p. 130). This in turn leads to a matching phenomenon where users feel obligated to continue to disclose intimate information on the same level as their CMC partner, further escalating the depth of the interaction (Jiang, Bazarova & Hancock, 2013). This concept is more powerful than just being online as it is not the anonymity

that is leading to intimate disclosure, but rather the matching of the partner's disclosure (Jiang, Bazarova & Hancock, 2013).

Much of the existing literature regarding CMC examines email, but social media is an important facet of computer-based communication. Additional cues are involved in the form of "self-descriptions, photos, and wall postings that may all be used to passively observe social information, which may help to form impressions" (Antheunis et al., 2012, p. 759). Similar to other forms of CMC, social media users are prone to assigning overly positive attributions to conversation partners leading to high levels of liking and attraction (Antheunis et al., 2012). Additionally, an increase in questions is also apparent with social media communication in an effort to reduce uncertainty (Antheunis et al., 2012). These questions are not shallow, but rather an attempt to learn through personal disclosure (Antheunis et al., 2012). Social media's use of text emphasizes language. Twitter is characterized as a conversation that happens to use text, and Facebook excels with nonverbal communication involving pokes (Schandorf, 2012). Both platforms incorporate a sense of ambiance or "never off" and subtlety in the form of gestures such as share, tag, send, comment, like, follow, and favorite (Schandorf, 2012). Social media can even convey solidarity with just a symbol such as a hashtag that creates "virtual proximity or co-presence unlike anything since the primitive village" (Schandorf, 2012, p. 336). However, the concept of social media is rapidly replacing various forms of traditional communication and potentially, "wholly mediated social connection is psychologically and emotionally lacking, and potentially detrimental" (Schandorf, 2012, p. 336).

Not everything about CMC is positive. Little context and few cues are provided so misunderstanding and misinterpretation is commonplace (Meluch & Walter, 2012). Often, social media and other CMC platforms become forums for disagreement and conflict despite the very public nature of sites such as Facebook and Twitter (Meluch & Walter, 2012). With little repercussion or threat of punishment, CMC users display deviant behavior not normally seen in face-to-face communication and compromises or “backing down” is rare (Meluch & Walter, 2012). Anonymity generates healthy discussion but can also “foster a sense of impunity, loss of self-awareness, and a likelihood of acting upon normally inhibited impulses” (Hardaker, 2010, p. 224). Hardaker (2010) notes the wealth of information found online, but much of the information is unverified thereby creating “experts” ready to argue. This arguing or conflict has developed into its own pastime: trolling. Trolling is the practice of inserting oneself into a conversation under the guise of honest interest only to pick fights and worsen existing contentious issues (Hardaker, 2010). The potential for trolling, or flaming, even has a chilling effect on those thinking about posting a video on to social media (Shi, Messaris & Cappella, 2014). Not surprisingly, there is not much literature on the subject of trolling, but there are a few new sources. That should speak to the growing issue of online conflict and the shield provided by CMC’s anonymity.

What separates CMC from most other forms of communication is the expectation of an expedient response. With few cues and context, one of the best ways to convey meaning is response time. Short response times convey respect while lengthy response times are likely to elicit negative responses (Kalman et al., 2006). Even though CMC has a tendency to be haphazard in terms of the give-and-take, it is popular and potentially

addictive when waiting for a desired response (Kalman et al., 2006). One study involving uncovered emails from Enron showed that 80% of the emails received responses quickly, 97% of the emails received responses within the expected time, and only 3% fell outside of the expected response time (Kalman et al., 2006). These emails are an example of asynchronous CMC and a quick response signifies “immediacy, care, and presence” while late responses include apologies and a distracted tone that sometimes does not address the original message (Kalman et al., 2006). Not receiving a desired response can have serious effects such as distress and can occur in any form of CMC, including emails, chat, and even texts (Kalman et al., 2006).

While a delayed response can be viewed as drastic by some, even a pause in CMC has meaning. The confusion of a long pause or a permanent silence can be maddening and debilitating for an organization (Kalman & Rafaeli, 2011). It is not the disruption of the work that is the problem, but rather the onus of interpreting what a potential silence means that is troublesome for employees (Kalman & Rafaeli, 2011). The status of the user giving the silence is also important. Identical length of silence from a highly valued CMC user and a user held in low regard vary significantly. We are prone to forgiving those we hold in high regard if they “forget” or delay a response to a message (Kalman & Rafaeli, 2011). Silence, or more often a delayed response, carries significance in that both the sender and receiver know what an expedient and slow response means (Kalman & Rafaeli, 2011). Without cues and context, response time is another way for CMC users to convey meaning to a communication form rife with misunderstanding and lacking in successful subtlety. Late responses are usually perceived negatively “with the harsh

interpretations of silence, and with the potential of such silences to escalate the deterioration of online relationships” (Kalman & Rafaeli, 2011, p. 62).

Time is also an important concept when examining Twitter. Users do assign a high level of credibility to Twitter, and users are held accountable because the avatar “provides immediate disclosure of the source” (Westerman, Spence & Van Der Heide, 2014, p. 175). Additionally, users appreciated consistent updates and were more easily persuaded when expectations were met in terms of response time (Westerman, Spence & Van Der Heide, 2014). Twitter deals in immediacy so it is a medium that can convey information quickly, and now, reliably as credibility perceptions are improving (Westerman, Spence & Van Der Heide, 2014). Credibility is improved further when information is updated regularly while “updating too slowly leads to decreases in credibility” (Westerman, Spence & Van Der Heide, 2014, p. 180).

Interactivity

The ability to interact is important and speaks to functionality but the perception that the communication is interactive is also vital. Users need to believe that someone out there is listening for it to be interaction and for WOM to exist. Social media, and especially Twitter, is an open highway to the outside world or a direct line to a specific user with every message, post, or tweet crafted with the intent of receiving a response in kind. Interaction, then, propels WOM and is significantly amplified by online and social media platforms.

The concept of interactivity is long-studied, but difficult to define because interactivity has been applied to face-to-face communication along with every

technological innovation from television to the Internet to social media. Few communication scholars can agree on a formal definition for interactivity because not only does interactivity concern human conversation, but also human-to-computer interaction mediated by both hardware and software (Stromer-Galley, 2004). Interactivity has been characterized as a catch-all term and buzzword that is “able to catch the attention of potential users and support the sale of new digital media products (Quiring, 2009, p. 900). Simply, interaction exists whenever there is any form of communication between two or more parties (Karimova, 2010). On broad terms, interactivity has been differentiated as interactivity-as-process, which is the simple act of communication between people, and interactivity-as-product, which are the features of a medium that can potentially generate interactivity (Stromer-Galley, 2004). Assessing interactivity-as-product is as simple as counting hyperlinks or identifying features such as chat functions, but this is not an adequate measure as some users may never use potentially interactive features, and thus, would characterize the platform as lacking interactivity (Stromer-Galley, 2004). However, many communication studies examine interactivity from this perspective. The following hypotheses focus on engagement potentially generated from interactivity-as-product.

H1: *Tweets with a hyperlink will generate more engagement in the form of replies, retweets, and favorites than tweets without a hyperlink.*

H2: *Tweets with a photo will generate more engagement in the form of replies, retweets, and favorites than tweets without a photo.*

H3: *Tweets with a video will generate more engagement in the form of replies, retweets, and favorites than tweets without a video.*

H4: *Tweets with an @ mention will generate more engagement in the form of replies, retweets, and favorites than tweets without an @ mention.*

H5: *Tweets with a hashtag will generate more engagement in the form of replies, retweets, and favorites than tweets without a hashtag.*

Much has been made about how many hashtags to include in a tweet. A quick scan of how-to social media websites suggest using hashtags but not cluttering tweets with too many hashtags.

RQ3: *Can using too many interactive functions decrease engagement?*

Interactivity can be studied from three different perspectives which include technological systems, communication processes, and user perceptions (Quiring, 2009). Again, user perceptions are problematic as some participants in studies characterize television as interactive, leaving some communication scholars to describe user perceptions studies as based on “interactivity is in the eye of the beholder” or “you know interactivity when you see it” (Quiring, 2009). Merely assessing interactivity based on functionality can lead to a “perception of high interactivity...even when most of the interactive infrastructure is missing but a single highly valued feature is present” (Kim, Spielmann & McMillan, 2012, p. 1544). This method lacks sufficient validity so a good deal of interactivity studies examines the concept from an interactivity-as-process perspective.

The interactivity-as-process perspective examines the dialog or exchange of information within an interaction. Rafaeli and Sudweeks (1997) are credited with developing the framework for modern interactivity study and their definition is “later messages in any sequence take into account not just messages that preceded them, but

also the manner in which previous messages were reactive.” This definition implies the concept of reciprocity or a patterned give-and-take (Wise, Hamman & Thorson, 2006). Song and Zinkhan (2008) contend that an important factor of reciprocity is the perceived quality of the conversation because if the interaction is good, it should continue between the parties involved. Another important component of conversation quality is the speed of responses, meaning interacting participants want expedient responses to their messages (Song & Zinkhan, 2008). Reciprocity implies two-way communication, which is a construct of interactivity along with control and synchronicity. Two-way communication requires a sender and a receiver with both parties needing to “engage in reciprocal communication that is responsive to the communicating parties’ needs” (Lowry et al., 2009, p.161). Control allows the parties to stop and start the conversation, respond quickly or slowly, and to use whatever tone or communication techniques they see fit (Lowry et al., 2009). Lastly, synchronicity refers to how messages mesh with one another in a timely manner because if the conversation becomes disjointed, the parties involved may become distracted thereby ending the interaction (Lowry, 2009). This synchronicity is readily apparent when a user poses a question and a company replies.

H6: *Companies responding to a user’s question will do so faster than any other tweet purpose posed by a user.*

Synchronicity is characterized by Karimova (2010) as “co-creation” and what makes this effective is the concept of conversational flow, but flow is not entirely necessary for interaction to occur; only to establish successful interaction. Importantly, interaction hinges on communication that is dependent and related to earlier communication (Kim, Spielmann & McMillan, 2012). Sometimes synchronicity is

referred to as real-time as in the style of face-to-face communication (Kiousis, 2002). The problem with emphasizing speed, when examining interaction, is that perceptions of speed often change (Kiousis, 2002), as in the example of dial-up to DSL to broadband Internet connections.

Over the years, the following dimensions have been included when examining interactivity: 1) complexity of choice available, 2) effort that users must exert, 3) responsiveness to the user, 4) monitoring of information use, 5) ease of adding information, 6) facilitation of interpersonal communication (Kiousis, 2002). Additionally, concepts such as speed, sensory activation, playfulness, and connectedness have been incorporated into interactivity studies (Quiring, 2009). Even though an overarching, accepted, and academic definition of interactivity does not exist, Kiousis (2002) attempted to define interactivity by describing the term as the “degree to which a communication technology can create a mediated environment in which participants can communicate, both synchronously and asynchronously, and participate in reciprocal message exchanges” (p. 372). Additionally, Kiousis (2002) said that communication could be one-to-one, one-to-many, or many-to-many; that those involved must perceive the situation as interactive as a face-to-face conversation; and that participants become somewhat lost in the interaction, which is known as telepresence. The concept of third-order dependency is also necessary for interaction to be present, as this refers to current messages depending on previously exchanged messages (Kiousis, 2002).

Sundar (2004) refined and added to the study of interactivity by transitioning from “audience” to “user” (implying an active audience) and by deemphasizing studying interactivity by examining users’ perceptions. Sundar (2004) posits that users tend to rate

devices they know how to use as highly interactive even if new devices that they are unfamiliar with are far more interactive. Additionally, Sundar (2004) is credited with separating interactivity into functional interactivity, which pertains to functions such as hyperlinks and functionality, and contingency interactivity, or the concept of current messages depending on previous messages and the subsequent “effects on cognition, attitudes and behaviors” (p. 388). From the functional perspective, interactivity is seen as technology that mediates the message and can include email, feedback forms, chat rooms, and audio or video downloads (Lee & Park, 2013). Just the existence of these functions counts as interactivity and the more functions present, the more interactive the platform. In terms of contingency interactivity, the message is more important than the functions of the medium with current messages depending on previous communication. The importance lies in the fact that increased contingency interactivity is linked with “higher satisfaction, a greater sense of self-efficacy, and increased memory” (Lee & Park, 2013, p. 190). Highly interactive companies were perceived in a more positive light, further fortifying reputation during a potential crisis. This sentiment leads to the following hypotheses.

RQ4: *Does company response time to user tweets have the ability to generate engagement in the form of replies, retweets, and favorites?*

The natural application for interactivity in a computer-mediated eWOM environment is branding and reputation management for companies on social media. A company’s network or following is an online community and messages from the company that demonstrate contingent interactivity lead to increased potential for user participation (Wise, Hamman & Thorson, 2006). However, companies and organizations

have a poor track record for demonstrating interactivity as these entities favor one-way communication and rarely engage with individual users publicly online (Waters & Williams, 2011). Despite numerous public relations studies recommending more interaction from companies, some messages should still be crafted with a traditional one-way communication framework (Waters & Williams, 2011). Still, using social media such as Twitter “facilitates interaction among an unlimited number of individuals and enables organizations to develop and sustain relationships” (Etter, 2011, p. 606), along with creating social capital with stakeholders. Even though increased social media use opens the company to negativity and increased scrutiny (Etter, 2011), the effort to be more transparent and responsive will increase positivity toward the company (Saffer, Sommerfeldt & Taylor, 2013). Social media does scare some public relations practitioners because it does relinquish a measure of control (Aragon & Domingo, 2014). This sentiment influenced many companies to drag their heels when incorporating social media and to rely on traditional websites.

Companies used to believe that websites provided enough interactivity, but this was merely functional: Truly contingent interactivity is conducted on Twitter (Saffer, Sommerfeldt & Taylor, 2013). Zollet (2014) credits a Gartner report that found that many online users prefer a company’s social media platforms over the website. This is due in large part to the static nature of websites and the lack of perceived interactivity, both functional and contingency (Zollet, 2014). When it comes to the big two, online users prefer corporate advertisers use Twitter over Facebook. Facebook is seen as a personal space, and users feel that advertisers clutter their newsfeeds which leads to “annoyance, suspicion, and sadness” (Sung & Kim, 2014, p. 236). Too much promotional content on

Facebook influences users to unfollow companies (Sung & Kim, 2014), but it is a fine line. Simply having a social media presence is worthless, but regular and meaningful contact with users leads to positive evaluations toward the company (Sung & Kim, 2014). It takes a truly skilled public relations practitioner to toe the line between engaging interactivity and annoyance. Due to the fact that Facebook is perceived as intimately personal, Twitter should be the preferred medium for corporate social media interactivity, such as when British Petroleum used Twitter as a “workhorse” to disseminate short and timely updates pertaining to the oil spill in the Gulf of Mexico (Diers & Donohue, 2012). This desire for control stems from traditional public relations thinking, and is a difficult habit to break even for companies seeking to adopt social media.

Word-of-Mouth

Word-of-mouth (WOM) is an important concept for any social media study because the communication between users is inherently give-and-take and has the ability to start with one user and spread to millions upon millions of users. Additionally, WOM is between people who know each other – but they do not have to as WOM can take place in a grocery store between shoppers unknown to each other recommending products – and the tone is often colloquial. Social media is all of this and it is a place where users can simply observe WOM, receive WOM, or disseminate WOM and thus, this concept should be examined because without the give-and-take between users, social media would morph into traditional top-down media platforms. Not surprisingly, WOM is a

force companies seek to understand and control because it is perceived as credible among people.

WOM advertising is a long-studied subject in communication as many scholars believe it is the oldest, and perhaps most effective, form of advertising (Golan & Zaidner, 2008). WOM is simply person-to-person communication involving a product or brand, but it is important to note that neither the sender nor the receiver are professionally affiliated with the subject of the WOM conversation (Golan & Zaidner, 2008). The informality of WOM advertising is what sets it apart from other advertising strategies and can “range from casual interpersonal conversations to consumer brand advocacy where a consumer actively promotes the brand to other potential consumers” (Feng & Papatla, 2011, p. 75). Traditional advertising is often perceived as manipulative and profit-driven but WOM is perceived to be credible and trustworthy as most WOM advertising is between personal relationships (Golan & Zaidner, 2008). Consumers rely on WOM far more than they think and close relationships play a significant role when making purchases (Chu & Kim, 2011). In fact, one survey pointed to the fact that almost 60% fewer people attribute traditional advertising as the reason for purchase and 40% fewer people say that traditional advertising is a worthwhile strategy to sell products (Trusov, Bucklin & Pauwels, 2009). WOM advertising counteracts this trend by appearing to be harmless while costing significantly less than a traditional advertising campaign. Additionally, customers add more long-term value when acquired through WOM advertising because they potentially will never stop talking about the product or brand to others (Trusov, Bucklin & Pauwels, 2009).

The prevalence of WOM necessitates its study. It is believed that consumers participate in almost 100 WOM conversations about brands each week, making WOM probably the most important influence a consumer has before making a purchase (Feng & Papatla, 2011). Four main motivations lead to one consumer telling another about a product or brand. These motivations include: 1) product, which is the product's characteristics influencing conversation 2) self, or the need to improve social standing, 3) other, which is the need to help others, 4) message, or the desire to relay an entertaining advertisement (Feng & Papatla, 2011). Additionally, strong ties or those found among families and close friends, lead more often to "referral behavior" and this is due in large part to high levels of trust and homophily, or similar socio-demographic characteristics (Chu & Kim, 2011, p. 53).

WOM can either be face-to-face spoken conversation or a written exchange. However, text-based WOM appears to be more potent due to its asynchronous nature (Berger & Iyengar, 2013). The fact that writing requires more time to process with each word and sentence requiring complex thought means that written communication tends to be more interesting and this is important because "nobody talks about boring companies, boring products, or boring ads" (Berger & Iyengar, 2013, p. 568). Verbal conversations tend to be filled with repetition and the content can be cluttered by visual and audio cues (Berger & Iyengar, 2013). Additionally, writing possesses a permanence that the spoken word just cannot replicate and text is more "formal, requires more effort, involves less social presence, and can provide heightened anonymity" (Berger & Iyengar, 2013, p. 569). For these reasons, written exchanges emphasize content and therefore, the content must be interesting to keep the exchange going. Interesting topics are discussed and have

the potential to spread online and through social media like wildfire. Berger & Iyengar (2013) found in their study that many face-to-face conversations are spontaneous making them difficult to plan what to say, but the asynchrony of written conversation “allows time to construct and refine communication, [and] self-enhancement concerns lead people to use this time to pick more interesting products and brands to talk about” (p. 576). With written WOM seen as more effective than spoken WOM, advertisers have flocked online to push products and brands through websites, email, and social media.

In the tradition of everything with the Internet, scholars termed online WOM as eWOM, or electronic word-of-mouth or electronic word-of-mouse. eWOM is person-to-person or person-to-group communication between users who are not affiliated with the product or brand facilitated by online technology such as chat rooms, instant messaging, listservs, webpages, consumer forums, and social media (Golan & Zaidner, 2008). Online communication has also been characterized as a “boundless dialog with a potentially unlimited number of other Internet users” (Gopinath, Thomas & Krishnamurthi, 2014, p. 241). Those who lead others and shape online opinion are known as e-fluentials and these users influence groups of users seeking “information exchange, friendship, social support, and recreation” (Sun et al., 2006, p. 1106), but e-fluentials are also information seekers as they aim to understand more about the world online. Those who communicate online tend to hold less back, are less shy, and disclose more personal information in eWOM conversations (Sun et al., 2006). Even though online users may never have met the users they are conversing with (Lee & Youn, 2009), interesting and personal information is exchanged with other advantages over traditional WOM including “speed, convenience, and one-to-many reach” (Sun et al., 2006, p. 1106). In the same way as

WOM is perceived to be more credible than traditional advertising, eWOM is just as influential as the conversations are between users with established relationships (Sun et al., 2006).

An important concept in eWOM is the perspective of the company attempting to converse with users on their level. Companies will use the infrastructure of social media to launch campaigns known as viral marketing. Viral marketing is cheaper, faster, and potentially longer lasting than traditional advertising (Golan & Zaidner, 2008). Viral marketers attempt to push their message by using e-fluentials to recommend the product as a strategy to diminish the image of the manipulative marketer (Golan & Zaidner, 2008). Similarly, viral advertising depends on users' "willingness to distribute content to peers" through eWOM on social media (Golan & Zaidner, 2008, p. 962). Importantly, the content is essential for successful viral advertising and subjects that incorporate sexuality, humor, violence, or nudity get shared online far more than boring subjects (Golan & Zaidner, 2008). Advertisers should also value the content over the volume of the online advertisements as there is a saturation point where buzz is no longer effective (Gopinath, Thomas & Krishnamurthi, 2014). The end game for viral advertising is not so much to influence purchase decisions but to strengthen the company's brand (Golan & Zaidner, 2008). Social media users have grown smart enough to discern paid users who advertise content and this can have a detrimental effect to the company's reputation and brand (Lee & Youn, 2009). Overt product promotion with the intent to generate sales usually is not appreciated by users so companies disseminate social media messages to strengthen the brand, solidify reputation, and frame the thinking surrounding the corporate image which are all public relations functions. Tweeting this would be using a public relations

strategy, a strategy more well-received than an advertising strategy, which centers on selling products or services in the content of the tweet.

H7: *Companies will use a public relations strategy when tweeting more often than an advertising strategy.*

Not only are social media users discerning, but they have also wrested control from the marketer as “consumers can say what they want about a particular product or brand, which inevitably may contain negative and positive details about products and services” (Lee, Rodgers & Kim, 2009, p. 1). The concept of viewing the consumer as a target is over and “successful companies are changing their one-way targeting approach to two-way communications” (Corstjens & Umblijs, 2012, p. 447). Social media users have also been characterized as actively partaking in activities such as surfing the Internet, interacting with other users, and contributing content (Yang & Coffey, 2014). As mentioned earlier, e-fluentials often pass on information generated by advertisers, and the process by which other users acquire this information is known as informational cascade (Yang & Coffey, 2014). Cascading is a powerful strategy to sell products as one survey pointed out that nearly 50% of online users relied on social media to make a purchase and more than 50% of Twitter users admit to recommending products or brands to their followers (Gopinath, Thomas & Krishnamurthi, 2014). Most telling is that 70% of those online trust unknown Internet users more than traditional advertising during a purchase decision (Gopinath, Thomas & Krishnomurthi, 2014).

Social media is the perfect vehicle for eWOM communication and is an “unparalleled platform for consumers to publicize their evaluations of purchased products” (Jin & Phua, 2014, p. 181). All of the functionality within social media is

designed to spread messages to numerous users. Advertising expenses on social media is nearing \$3 billion (Chu & Kim, 2011), and this spending buys the coveted online behavior of interaction. Namely, interaction on social media can be characterized as opinion seeking, opinion giving, and opinion passing, but the nature of social media allows for every user to be all three at any given moment (Chu & Kim, 2011). One particular advantage social media eWOM has is that users will discuss products and brands with strong and weak ties, but generally, traditional WOM requires a strong relationship to occur (Chu & Kim, 2011). Bach & Kim (2012) found that social media eWOM users can easily reach other customers, current and former employees, and even accounts operated by company leadership. Going from ordinary user to high-status user is not the norm, however, as much of eWOM on social media “flows from elite users of Twitter, such as celebrities, to their followers” (Jin & Phua, 2014, p. 183). Online users believe social media eWOM advertising to be more credible than traditional advertising, and users with more followers are assigned more credibility and cachet than users with a smaller following or network (Jin & Phua, 2014). In turn, users who view social media posts from celebrities or elite users tend to remain involved with the brand longer and more prone to sharing the brand information with their online network (Jin & Phua, 2014).

Message valence plays an important role in eWOM. Consumers place a fair amount of importance on negativity concerning products or brands, and the absence of negativity leaves consumers suspicious to the potential of deleted comments or company manipulation (Lee & Youn, 2009). The practice of compensating social media users for favorable reviews and comments does not fool the online community, and companies

would be better served to accept the bad with the good interaction (Lee & Youn, 2009). Still, Lee, Rodgers & Kim (2009) found that negative eWOM reviews affected the brand image far more than positive reviews. These negative reviews are powerful, long-lasting, and have the potential to decrease future purchase decisions (Schultz, Utz & Goritz, 2011). However, negativity and complaining may be impossible to completely avoid on the Internet. The Internet provides a convenient forum to voice opinions about a product and there are eight main motivations for doing so: altruism to champion positives, product involvement, self-enhancement, helping the company, altruism to decry negatives, anxiety reduction, vengeance, and advice seeking (Bach & Kim, 2012). Angry users are dangerous on social media because they are “not only involved in advice seeking but also in experience sharing and advice giving” (Bach & Kim, 2012, p. 62). Essentially, these users are extremely active and will share their negative experience with anyone who will listen online.

For as much as eWOM is lauded over traditional advertising, the latter is credited by many in starting the conversation in the first place. More than 20% of all WOM conversations concerning brands involve someone talking about traditional advertising (Keller & Fay, 2009). Feng & Papatla (2011) contend that traditional advertising and WOM work in concert with each other as “increased advertising can increase product awareness and, hence, word of mouth and increased word of mouth can increase awareness and, hence, strengthen the effects of advertising” (p. 76). Traditional advertising creates the conversation while WOM secures the sales (Keller & Fay, 2012). However, a major advertising campaign that saturates the market may reduce the amount

of WOM because just about everybody has already experienced the ads and do not need to discuss it (Feng & Papatla, 2011).

Knowing that companies use social media for a variety of objectives, the following research question focuses on tweet purpose and engagement.

RQ5: *What tweet purpose used by the Fortune 500 generates the most engagement in the form of replies, retweets, and favorites?*

Message Valence

Every message has some effect, and while it may be small, the effect is more than likely either positive or negative. Therefore, it is essential to examine the content of the messages and tweets with the spectrum of positivity and negativity in mind. This speaks to the concept of transparency and disclosure, which are important elements for worthwhile social media communication.

There is an innate sense in all of us that knows nothing is perfect and that even the best products or brands have deficiencies and drawbacks. Smart advertisers will not ignore the negative aspects of a product, but rather, sell the positives and acknowledge that the negatives exist. This treats the customer with respect and paints a more credible picture of the product or service. This concept is supported by the literature and is known as two-sided messages which not only present “positive information, but it also includes negative information” and the practice of presenting “drawbacks in a two-sided message can increase persuasion” (Eisend, 2013, p. 566). Too much positivity has the potential to be perceived as overt advertising and an attempt at being slick and manipulative (Roering & Paul, 1976). But it is important to only bring attention to negative product attributes

that are not vital or deemed absolutely necessary in the eyes of the customers (Roering & Paul, 1976).

Two-sided messages are particularly effective with intelligent consumers who are highly invested in the decision-making process (Eisend, 2013). Conversely, low-involved customers are going to be persuaded by the amount of information, not the content (Eisend, 2013). Negative information establishes credibility and humanizes the advertising, but there is a limit to the amount of negativity and if too many drawbacks are presented, the consumer will choose an alternative (Eisend, 2013). Estimates place that up to 50% negative information is not harmful to successful persuasion (Eisend, 2013). The importance of this is the fact that persuasion brought about by elaboration “have been found to be more predictive of behavior than nonthoughtful attitudes” (Eisend, 2013, p. 567). Roering & Paul (1976) claim that persuasion is improved when advertisers diminish “superiority on some product attributes” (p. 36). Essentially, presenting two-sided messages leads to more purchase decisions than simple arguments such as in the case of Avis that embraced its second-place ranking in the car rental world by admitting shortcomings and using the slogan, “We try harder!” (Eisend, 2013).

Message valence is not only reserved for top-down advertising originating from companies. The Internet, online reviews, and social media place users’ comments and messages in a very public forum for better or worse. Positivity is certainly appreciated by organizations but negative comments can have damaging effects and deleting them is out of the question because that can make the situation worse (Chen & Lurie, 2013). Users tend to place a great deal of emphasis on negative comments because positive comments tend to reflect the user while negative comments tend to focus on the product itself (Chen

& Lurie, 2013). The negativity bias is explained by how being cognizant of negative situations is a survival instinct and how negative information is perceived as rare and therefore should be heeded (Chen & Lurie, 2013). Negative information grabs attention and “people pay more attention to bad than good news, and they take criticism more seriously than praise” (Wu, 2013, p. 972). Prospective buyers value negative reviews and reviewers who rate books or movies negatively are perceived to be more intelligent than reviewers use positivity (Wu, 2013). But Wu’s (2013) own study revealed that the quality of the review, and not if it is positive or negative, determines the value to the potential customer. This was also confirmed in a study examining stop smoking PSAs in that positive comments helped to support the message more than negative comments concerning the content of the video (Shi, Messaris & Cappella, 2014). However, in the eyes of smokers, comments were viewed as distracting and positive comments significantly decreased the perceived value of the PSA (Shi, Messaris & Cappella, 2014).

This confounding information is consistent with two-sided and negativity bias research. But negativity does grab attention. Martin (2008) found that negative issues during political campaigns influence higher voter turnout as voters seek to remedy what is wrong with the present situation. By abstaining from voting, citizens are condoning what is happening in society, and it is only when threats or problems arise that draws people to the polls (Martin, 2008). In line with negativity bias that emphasizes the downside over the upside, “negative information is most likely to be paid attention to, remembered, and then used for judgment” (Martin, 2008, p. 184). Users assign more importance to negativity and tend to share the experience with others, which leads to the following hypothesis.

H8: *Negative replies will generate the most engagement in the form of replies, retweets, and favorites than positive or neutral replies.*

Admitting to faults and even championing adverse situations is a favorite tactic used by public relations practitioners to demonstrate transparency, credibility, and openness. The goal of public relations excellence is to establish relationships with an organization's publics in much the same way humans build relationships. This requires openness and disclosure (Sweetser, 2010). Disclosure is often times difficult for those working in public relations and issues such as front organizations, paying for media coverage, and conflicts of interest continue to taint the profession (Sweetser, 2010). To avoid the appearance of impropriety, organizations should be as transparent as possible, especially when using social media because failing to do so can lead to diminished reputation (Sweetser, 2010). A simple way to appear transparent is to respond quickly to criticism or negative situations raised by users, which leads to the following hypothesis.

H9: *Negative replies will receive a faster company response than positive or neutral replies.*

People want their companies to seem human, or imperfect, as "the admission of relative inferiority on a single product attribute could provide enough variation to substantially increase consumer confidence (Roering & Paul, 1976, p. 36). Encouraging engagement, while opening up to criticism, is an effective way to generate credible reviews both positive and negative, while functioning as a tool to shape the message in a time of crisis (Chen & Lurie, 2013). While scholars advocate for transparency from corporate social media accounts, studies continue to show that traditional top-down public relations is most often used, and this more than likely, positive information that

places the company in the best light possible to strengthen the brand and solidify reputation.

H10: *Company tweets coded as negative will generate more replies, retweets, and favorites than company tweets coded as positive.*

Company Type

The Fortune 500 is comprised of companies that sell to consumers and to other businesses. These companies conduct business differently so it is logical to believe that these businesses will use social media differently too. The following section presents the differences between business-to-consumer (B2C) and business-to-business (B2B) companies. B2Cs are presented first because B2Bs have been slow to adopt e-commerce, websites, and social media in comparison to companies that deal with individual users.

Identifying B2C companies is easy. Most advertisements on television and any products we use were manufactured and sold to us by B2Cs. This section will examine how B2Cs use the Internet for e-commerce, a business that generated almost \$70 billion in 2004 which was almost a 24% increase over the previous year (Chang & Hung, 2006). In comparison, traditional retail sales only increased 8% from 2003 to 2004, demonstrating the importance of online commerce (Chang & Hung, 2006). Even online banner advertisements generated almost \$3 billion in revenue in 2001 (Lohtia, Donthu & Hershberger, 2003). With that being said, both B2B and B2C e-commerce companies have had to overcome diminished expectations ever since the tech bubble burst in 2000 (Chang & Hung, 2006). However, Chang & Hung (2006) recommend that companies

should explore and adopt the systems to integrate e-commerce as soon as possible if they have not already.

Lemke, Clark & Wilson (2010) remark that B2Bs and B2Cs are similar in that both use the concept of bundling products and services to appeal to prospective buyers along with putting forth effort to cultivate strong relationships in networks. However, B2Bs tend to place a greater emphasis on relationship quality because so much of B2B commerce is repeat business while B2Cs tend to be more transactional with consumers (Lemke, Clark & Wilson, 2010). Additionally, much of what is sold by B2Bs is customized to the specifications of the buyer whereas much of what is sold by B2Cs is sold as is again placing an emphasis on relationship making by B2Bs (Lemke, Clark & Wilson, 2010). B2B purchase decisions often take a long time and are “seldom impulse purchases and usually the result of group decision making” so these purchases are characterized as high involvement (Lohtia, Donthu & Hershberger, 2003, p. 411). With B2C purchase decisions characterized as low involvement, advertising to B2C consumers involves emotional appeals, color, and animation (Lohtia, Donthu & Hershberger, 2003). B2B banner advertisements tend to lose effectiveness when cluttered with incentives or interactivity (Lohtia, Donthu & Hershberger, 2003), perhaps leading some B2Bs to adopt online tools such as social media later than most. Regardless of B2B or B2C distinction, both demand excellent online customer service to foster loyalty and to track complaints (Lemke, Clark & Wilson, 2010). With B2Cs seeking to appear more interactive, the following hypothesis is proposed.

H11: *On average, B2C companies will include more visual elements (photos and videos) within tweets than B2B companies.*

B2Cs know this and are searching for ways to reach consumers to improve relationships. Dabholkar, van Dolen & de Ruyter (2009) point B2Cs online as “there is good potential to form B2C relationships through this medium” (p. 146). These researchers differentiate customer satisfaction into economic satisfaction which “encompasses customer evaluations of economic or instrumental outcomes, task accomplishment, and goal attainment” and social satisfaction which “captures customer evaluations of social presences, interpersonal interactions, and enjoyment from a social exchange” (Dabholkar, van Dolen & de Ruyter, 2009, p. 148). Taken together, both of these concepts help to improve customer loyalty and commitment to a company, specifically, a B2C (Dabholkar, van Dolen & de Ruyter, 2009, p. 148). But to realistically and successfully offer economic and social satisfaction to customers, interactivity through online chat is recommended feature that should be present on B2C websites to “restore the personal touch” (Dabholkar, van Dolen & de Ruyter, 2009, p. 165). Online interactivity is a necessary feature that can help marketers “achieve higher conversion rates and start building relationships with online shoppers” Dabholkar, van Dolen & de Ruyter, 2009, p. 165).

The obvious move from online group chats is to social media. Social media sites such as Facebook and Twitter are nearly ubiquitous among consumers and even companies within the Fortune 100 average 20 social media accounts each back in 2010 (Rapp et al., 2013). But even more than 90% of B2B marketers are using social media to interact with their customer base (Rapp et al., 2013). While this is an improvement from years past, B2Bs are still unsure if social media is worthwhile or if it can convey the brand effectively to consumers at the end of the supply of chain (Rapp et al., 2013). This

should not stop B2Bs from entering into the social media realm, as many retailers take cues from B2B social media to effectively advertise the brand in-store and in the mass media (Rapp, et al., 2013). Still, many B2Bs avoid social media because much of their business is conducted during face-to-face meetings (Rapp, et al., 2013). With a “head start”, B2Cs have operated social media longer than B2Bs, prompting the following hypotheses.

H12: *On average, B2C companies will tweet more than B2B companies.*

H13: *On average, B2C companies will follow more users than B2B companies.*

H14: *On average, B2C companies will have more followers on Twitter than B2B companies.*

There is no going back for B2Cs and social media, however. Customers have come to expect retailers to not only advertise on social media, but also to perform customer service and to provide a somewhat personalized experience online (Rapp et al., 2013). This is important because “the more favorable the consumer’s social perceptions are, the more favorably the consumer views the exchange, leading to positive patronage and repurchase intentions” (Rapp et al., 2013, p. 553). Rapp et al. (2013) posit that successful social media interaction is noticed up and down the supply chain and can influence both B2Bs and B2Cs alike into adopting social media.

However, there is a limit to social media effectiveness. A company’s prior reputation is essential to social media initiatives working because “if little relationship capital is possessed, the likelihood of customer imitation diminishes greatly” (Rapp et al., 2013, p. 561). A well-executed social media campaign has the ability to improve the standing of the brand, supplier, and the competitive environment and has proven to be

important for B2Bs as well (Rapp et al., 2013). Social media has shown to be able to benefit entities both “upstream” and “downstream” in the supply chain through the use of effective engagement with consumers at the retail level (Rapp et al., 2013). With this in mind, B2C retailers have the ability to dictate the effectiveness of B2B social media campaigns (Rapp et al., 2013).

While B2B connections are potentially worth more than B2C connections with individual users, this should not stop B2Cs from cultivating relationships with users on social media. Some users have the ability to influence large followings. These users are called mavens and “they believe that they have an important social role to inform others” (Boon, 2013, p. 844). Mavens feel obligated to learn about products and about the best deals to share with those following them on social media (Boon, 2013). Even though these mavens are more than likely to be in it for the rush of buying materialistic things than saving money with deals, these mavens are valuable to B2Cs trying to spread the word through social media (Boon, 2013). Still, it is important to keep followers happy on social media because the platform is so public and mavens have such a large influence (Boon, 2013).

B2B commerce is the buying and selling of goods, services, and ideas between businesses and not individual consumers (Rouse, 2014). While this form of commerce may not come to mind when thinking about business or advertising, B2B commerce is quite lucrative. Estimates say B2B commerce generates trillions of dollars per year, attracting newcomers to the marketplace in droves (Reber & Fosdick, 2005). The Internet has facilitated the growth in the B2B sector and has been likened to the railroad industry in its development at the turn of the 19th century. While many think of passenger trains

traveling across the country, it was commercial freight that supported the railroad industry (Reber & Fosdick, 2005). In much the same way, individuals and consumer retail will soon be dwarfed by B2B commerce online (Reber & Fosdick, 2005). But while B2B commerce generates trillions, these companies have not maximized online potential and have been slow to incorporate e-commerce features such as email and lists of frequently asked questions (Reber & Fosdick, 2005). These B2B websites are behind in terms of incorporating interactivity and customer chat options as only 12% of the 517 companies surveyed had interactive features (Reber & Fosdick, 2005). Lastly, B2B companies demonstrated a lack of interest in tracking customer satisfaction after business transactions (Reber & Fosdick, 2005). This lack of interaction leads the following hypotheses centering on engagement.

H15: *On average, B2C tweets will generate more replies, retweets, and favorites than B2B tweets.*

Innovation has been slow to arrive for many B2Bs but that may be because B2B companies are like-minded and usually conduct business with other similar companies. These businesses practice “self-reflection” or the process of choosing business partners that are “symmetrical in relative size, market share, financial strength, productivity, brand image, company reputation, and level of technological sophistication” (Campbell et al., 2010, p. 713). The last concept in the aforementioned quote is important because it demonstrates the reticence and same mindset that some of these companies have: “If they are not using social media, then I do not have to either.” The concept of synergy is important in B2B relationships and companies will refrain from doing business with companies far larger or far more advanced (Campbell et al., 2010). Unfortunately, B2B

companies seem entrenched in their ways as long as the other B2Bs continue to operate in the same way because these companies “are more likely to understand each other and reach agreement, work together, and sustain a relationship” (Campbell et al., 2010, p. 713).

Despite the perhaps unintentional cooperation of B2Bs to maintain what works, inevitable conflicts occur when companies have different goals (Vosgerau, Anderson & Ross, 2008). If companies can put aside differences, then the business relationship can endure and overcome perceptions (Vosgerau, Anderson & Ross, 2008). These perceptions are often times self-serving in that “a party’s tendency to attribute successes to own effort and failure to the lack of effort of the counterpart” (Vosgerau, Anderson & Ross, 2008, p. 219). This is a concept B2Cs do not have to worry too much about, but B2Bs have buyers and sellers that need to record profit or the potential for profit with every transaction.

One area that is receiving more study in B2B literature pertains to the Internet and website design. B2Bs, while slow to adopt technology or innovate, do use customer relations management (Walters, 2008). Adopting these systems allows companies to “contact and do business directly with potential suppliers or customers in a convenient, flexible and rapid manner without the services of an intermediary” (Walters, 2008, p. 61). But one of the more valuable attributes of using automated systems for B2Bs is the recording and tracking of information for future business in addition to the ability to engage conversation to facilitate the transaction (Walters, 2008). Walters (2008) characterizes the Internet as valuable to B2Bs and “provides a relatively inexpensive, highly effective international communication channel and can be seen as the ‘glue’ that

facilitates and cements relational exchange” (p. 64). The potential of the Internet for B2Bs lies in the networking potential, or the ability to establish connections to secure future business (Walters, 2008).

Networking is a key concept for businesses using the Internet, but B2Bs and B2Cs enjoy the benefits of networking differently. For B2Cs, the mantra is “Double your customer base, double links” (Berthon et al., 2003, p. 553), but B2Bs can gain multiple links with each established connection so “the B2B market is potentially of much greater significance than the business-to-consumer market” (p. 553). Essentially, a connection for a B2C is worth only one, but each connection for a B2B could potentially be multiple suppliers and buyers, thereby requiring B2Bs to get their name out there and network (Berthon et al., 2003). For this reason, it is expected that B2B advertising expenditure will exceed B2C spending in the coming years (Chakraborty, Lala & Warren, 2003). Not only do B2Bs need to network, but website presence is essential. A good B2B website needs a sense of personalization that treats each visitor as unique, a mechanism to communicate interactively, a large amount of information, a sense of organization to ease navigation, a respect for a visitor’s privacy, an ability to entertain, and accessibility in that the site is easy to use and features load (Chakraborty, Lala & Warren, 2003). Chakraborty and his colleagues (2003) found that organization and personalization to be the two most important attributes of B2B websites wanted by visitors.

While larger businesses have more revenue to invest in websites than smaller businesses, smaller businesses tend to use online tools more often to transact business because they “need to close deals as efficiently as possible, given their limited reach in terms of distribution outlets” (Usunier & Roulin, 2010, p. 204). These websites serve two

main purposes: provide information for prospective buyers and to reduce barriers at the time of purchase (Usunier & Roulin, 2010). Consistently throughout the literature, the theme of interactivity is stressed. Usunier & Roulin (2010) remark that interactivity allows for B2Bs to adapt and respond to a changing business environment. However, many B2B websites are operated in the traditional top-down format with little regard for feedback from website visitors (Usunier & Roulin, 2010). With this in mind, most B2B websites only scratch the surface in terms of maximizing the full potential of the Internet (Usunier & Roulin, 2010). There is not much in the B2B literature regarding social media – which is telling in itself – but Steyn et al. (2010) found that a majority of the B2Bs had not been exposed to a social media news release. When it comes to new technology, adoption is predicated on two factors which are “perceived usefulness and perceived ease of use” (Steyn et al., 2010, p. 88). With B2Bs looking to increase exposure to establish connections and with their websites criticized for lacking interactivity and a feedback forum, perhaps social media could be the tool B2Bs need to incorporate to realize the full potential of online commerce.

H16: *On average, B2Cs will respond faster to user replies than B2Bs.*

Now that the independent variables have been introduced and discussed, it is important to examine if the variables interact. The following hypotheses analyze reply valence, interactivity, and company affecting engagement and response time.

H17: *Interactivity and company type will significantly interact when generating engagement in the form of replies, retweets, and favorites.*

H18: *Interactivity and company type will significantly interact when generating company response time.*

H19: *Reply valence and company type will significantly interact when generating engagement in the form of replies, retweets, and favorites.*

H20: *Reply valence and company type will significantly interact when generating company response time.*

The overall, big picture of this research is to find out if there is a three-way interaction between interactivity, message valence, and company type in generating engagement. Thus, the following research question is posed.

RQ6: *Are there three-way interaction effects among interactivity, message valence, and company type on a tweet's communication effects, measured in its number of replies, retweets, and favorites?*

CHAPTER 3: METHODOLOGY

The research design for this study is $3 \times 3 \times 2$ where interactivity has three levels, reply valence has two levels, and company type has two levels. In terms of interactivity, the three levels are the control group (or when no user reply is present), the reactive group (or when a user reply to the company tweet is present), and the full two-way interactive group (or when the company' reply to the user's reply is present). For message valence, the two levels are positive, neutral, and negative. The final factor of company type has two levels and these levels are B2C and B2B.

In terms of operationalization, interactivity is the exhibition of a reply to a company's tweet. No reply means no interaction. Reactive interaction is when a user's reply is evident and connected to a company's tweet. Full two-way interaction is when a company replies to the user's reply to the company's original tweet. A visual depiction of how interactivity was operationalized in this research is presented in the appendix. With respect to message valence, the replies to the company tweets will be coded for purpose with compliment, user's self-promotion, and give feedback/opinion grouped together to form non-negative replies while complaint will be the sole purpose that comprises negative replies. For company type, companies that sell to consumers will be coded as B2C while companies that sell to other businesses will be coded as B2B.

Method

Since 1955, Fortune Magazine has ranked the top 500 public companies in the United States based on total revenue. These companies are usually some of the strongest and most admired in the world, managed by well-respected leaders, and sell high-quality

products. Information about the Fortune 500 is readily available and these companies are usually trendsetters within their respective industries. For these reasons, the 2013 Fortune 500 list will be used as the population for this study.

This study incorporated the use of both a field experiment and a content analysis. Using a field experiment design is advantageous because it maximizes validity. Wrench et al. (2008) recommends for the most accurate and valid results that “the behavior studied is restricted as little as possible by the researcher or by the design of the research project” (p. 451), and that the researcher should be able to observe “events as they naturally occur” (p. 452). This study is a true field experiment because the data was collected in the companies’ “natural environment” meaning each company can tweet and interact without the pressure of feeling observed by researchers. Each company’s social media team can use its own natural techniques and strategies and the effectiveness can be accurately predicted because these tweets are being seen by the online public, and not a lab of a few hundred college students. For example, Detweiler et al. (1999) were testing the efficacy of gain frames and loss frames in advertising. In a lab, the researchers presented subjects with advertising messages pertaining to sunscreen that used benefits and advertising messages that centered on the harm of not using sunscreen and no significant effect was observed (Detweiler et al., 1999). However, when these messages were presented to people at the beach, the effect was significant and large in favor of the gain message (Detweiler et al., 1999). This speaks to the value of using field experiments to capture subjects behaving in their natural environments.

Reliability is often an issue with field experiments because it is difficult to replicate the exact conditions if the environment is perfectly natural. This study combats

this by using data over a five-year period from 2009 to 2013. If only one year of data are collected, then the results could certainly be affected by extenuating circumstances such as a financial downturn or an increase in gas prices. By collecting five years' worth of data, the significance of aberrations is diminished and reliability is increased.

As mentioned before, the population for this study is the Fortune 500. To build the sample, the following procedure was used. First, the Twitter accounts were located. The most accurate way to do this is to visit the corporate website and then click on the Twitter logo to access the corporate Twitter page. Most of the companies have the link to their Twitter page prominently displayed on either the Home screen or in a Social Media, Media Relations, or Contact Us page. If there is not a link to a Twitter page on the corporate website, a simple Google search with the company name and the word "Twitter" usually presents the link to the corporate Twitter page as the first result. Using the search tool on Twitter is often problematic, however. Simply typing in the name of a company sometimes nets parody accounts, fan discussions, or no page at all. Some companies have multiple Twitter accounts. If this is the case, the account that handles the main corporate news was used as opposed to a customer service or media relations Twitter page. If there is continued confusion, the account that appears more active or has a greater number of followers and following was used. Once the proper account is located, the number of following, number of followers, and the number of tweets was recorded. Additionally, the hyperlink, date recorded, and whether or not the Twitter page is verified was recorded.

To collect the tweets for the study, the following procedure was used. One tweet per month was collected for each company from 2009 to 2013. A random number was

selected that served as the date for the specific month. If a company posts multiple tweets on the selected date, these multiple tweets were each be assigned a number and one was randomly selected. If there are no tweets on the selected date, the tweet posted on the next closest day in the specific month was used. This means that there could be 12 tweets per year and 60 tweets per company for the five-year period from 2009 to 2013. Some companies do not tweet very often and it is possible that some companies do not tweet for months. If this is the case, no tweet was selected for the month. Also, some companies created a Twitter account, but have failed to tweet at all. Again, no tweets were selected if this was the case. One difficulty worth noting is the fact that Twitter limits how many tweets a user can view. Only a set number of tweets are available to view in a user's history as "previous messages are not only pushed down, but simply disappear. Beyond a rather short period of time, these messages cannot be searched" (Himmelboim, McCreery & Smith, 2013, p. 170). Most of the time, this was not be a problem, as many companies tweet once or twice per day. But the companies that tweet upwards of four or five times per day have less of their tweeting history visible to the public. For these companies, it is possible that only a year or two of data was collected even though the company had a Twitter account since 2006. In some instances, the company tweets so often that only a few months of tweets are visible for potential data collection. Once a tweet is selected, a screenshot of the tweet is saved along with a screenshot of the two most recent replies to that tweet. Many tweets did not have any replies. With 500 companies and 60 tweets for each company, there is a potential for 30,000 tweets and 60,000 replies in the sample.

To content analyze each tweet, the following procedure was followed. First, the number of each tweet's retweets, replies, and favorites was recorded. This gives some

indication to the communication outcome generated by the given tweet. Second, the number of hyperlinks, photos, videos, @ mentions, and hashtags was recorded. For this study, a hyperlink is any link that that when clicked, takes the user away from the tweet. Twitter helps in identifying hyperlinks by shading them in a different color than the rest of the text. Photos are any image included in a tweet. These also include logos, brands, or symbols. Videos are any moving image of any length included in a tweet. Even short videos such as GIFs will be characterized as videos. In Twitter, every user's identification is prefaced by the @ symbol. Using the @ symbol within a tweet directly sends the tweet to the user along with publishing the tweet for all to see. The number of @ mentions counts the number of Twitter users the tweet was sent to. Lastly, number of hashtags refers to the number of words or phrases that are prefaced with the # symbol. Both @ mentions and hashtags are shaded in different colors than the rest of the tweet's text making identification simple.

Next, the subject of the tweet was coded as either non-negative or negative. Even at 140 characters, tweets can be ambiguous making it difficult to discern between neutral and the extremes of positive or negative. For this reason, any negativity in the tweet whatsoever was coded as negative. Negative tweets are few and far between, but this tweet from Boeing is an example of a negative subject: "RT @boeingairplanes: Update on Friday's 787 incident @HeathrowAirport now available from @aaibgovuk". Non-negative tweets include any tweets that do not include negative language such as this tweet from Home Depot: "All hands on keyboards! #LetsDoThis #CyberMonday #HomeDepot".

After discerning the subject, each tweet was coded for purpose. Purposes, in this study, include: Pure Information (with no clear PR purpose and no company or product is mentioned), Information with clear PR purpose (e.g. corporate news or company is mentioned, focusing on company image), Sales/Promotion information with advertising purpose (product is mentioned, clearly suggesting people to buy), Customer Service, Job Recruiting, and Non-informational (content that serves no informational, promotional, or persuasive purpose, e.g. holiday greetings or inspirational quotes, no company or product is mentioned).

An example of Pure Information would be this tweet from Exxon Mobil: “About 85% of the growth in electricity generation is expected in developing countries”. This tweet is simply providing information about the world and does not mention Exxon Mobil in any way. In regard to Information with clear PR purpose, this tweet from Ford is an example: “Go Further with Floyd! RT @USATODAYmoney: 102-year-old man buys new Ford F-150 pickup”. This tweet clearly mentions Ford but the story is about a 102-year-old man buying a Ford which is public relations because the story benefits Ford’s image. The Sales/Advertising tweet centers on products, prices, and promotional information involving the company such as this tweet from AT&T: “AT&T Sweepstakes. No purch req’d. US res age of majority. Ends 12/23/13. Void if prohib. Rules/Enter”. This tweet is promoting the AT&T sweepstakes by giving some rules while also putting the company’s image out into the Twittersphere.

A customer service tweet is a message directly addressing the concerns of a user on Twitter. For example, this tweet from UnitedHealthcare provides an example of customer service: “@suekelso We could definitely get another card ordered for you.

Could you please private direct message your name and phone #? Thank you ^JB”. The tell-tale customer service notification is that the tweet is directed to one specific user and because the tweet aims to help. Additionally, customer service tweets usually try to transition the interaction from public to private message as this one does. Job Recruiting pertains to tweets promoting jobs within the company such as this tweet from John Deere: “John Deere Power Systems in Waterloo, IA is hiring an #Engine #Engineer – Performance Lead”. These tweets usually provide the job title, location, and a link to the job posting on the company’s website. Sometimes, these Job Recruiting tweets will use the #jobs hashtag to promote the tweet as well. Lastly, the Non-informational tweet includes anything that serves no informational, promotional, or persuasive purpose such as a quote or holiday well wishes. An example of this would be Allstate Insurance when they tweeted: “This holiday season surprise and delight those around you. Give up your seat. Share your #goodlife”. Another example is this tweet from General Dynamics: “How long would it take Columbus to reach America if he sailed on a #USNavy Burke-Class Destroyer?” These tweets are usually lighthearted with an informal tone and often include pictures or graphics as well. These tweets are a form of branding but are also posted to appear more personal to online audiences.

Next, the tweet was coded for dialogic characteristics. Tweets that initiate dialogue were coded as dialogic. If the tweet is dialogic, the tweet is either asking a question or answering a question. Rybalko & Seltzer (2010) define dialogic in terms of social media engagement as “whether the company engages in discussion with stakeholders by posing a question on Twitter to stimulate dialogue or by engaging in dialogic opportunity by responding directly to a question or comment posted by another

user” (p. 338). Tweets that ask a question should clearly include a question mark such as this example from DirecTV: “Are you the World’s #MostPowerfulFan? Prove it for your chance to win #football prizes! Play here”. With the question mark, it is clear that this tweet is dialogic by asking a question. Tweets that answer a question are little more difficult to identify but the @ mention should be present and the tone often is accommodating such as this tweet from Goodyear: “@_iHugTrees Each airship has a crew of 16 to 20+ individuals, including 3 or 4 pilots who ‘drive the thing’”. Here, the user clearly asks Goodyear how many people comprise the crew of a blimp and Goodyear uses some humor by directly quoting the user with their colloquial phrasing. Another example of answering a question is this tweet from Colgate-Palmolive:

“@juniorshabidoo Hi Nack, while we can’t offer you a gel, our original Colgate Cavity Protection paste is nonwhitening. Hope it fits the bill”. Again, this tweet is directly addressed to a user and that user clearly asked about a nonwhitening gel toothpaste. Any tweets without a question mark or not clearly answering a question were coded as not dialogic.

The last section of the coding sheet centers on the replies to the tweet. Each reply is coded for purpose: Compliment, Complaint, Question, User’s self-promotion, and Give feedback/opinion. Compliments should be positive toward the company much like this tweet that compliments Exxon Mobil and the project the company undertakes:

“@exxonmobil Awesome projects! I’m intrigued by waste heat recovery (rf. Laws of Thermodynamics).” Another example would be this tweet: “@exxonmobil We’re always impressed by the innovation and proactive approach. It inspires us to adopt some of the same initiatives #energy”. Both of these tweets clearly praise Exxon with compliments

and flattery. Complaints are also easy to identify (as there will be negativity along with sarcasm and snarky attitude). UnitedHealthcare tweeted that “You may feel some minor discomfort or muscle soreness when you start to exercise. This should go away as you get used to the activities.” A user who is not happy with some of the charges on their insurance bill replied in a tweet that said: “@myUHC you may also feel some major soreness when you get your hospital bills and UHC’s stuck you for an additional \$4000 in ‘deductibles’”. This reply is clear negativity directed toward the company and that is important because the complaint must be against the company and not against something else in general.

In much the same way as the tweet appearing as a question, a reply coded as a question must obviously ask something while including a question mark. This tweet asks IBM for assistance: “@ibm what should I do am getting this error from ibm r40e,0177 bad svp data, stop post task”. Even without the question mark, this user is having problems and is asking for help from IBM, so this tweet should be coded as a question. An easier question to spot is this tweet directed at Bank of America: “@BofA_News @TraceyBleakley @pfeg_org How many young men & women do you directly train and employ from #towerhamlets college??” With the question mark and asking word (who, what, when, where, why, and how), this tweet is the typical question asked of companies on Twitter.

Social media users are often narcissistic, so even when a tweet is about promoting a company’s brand, users will attempt to insert themselves or their websites into the discussion. While this may be more difficult to identify than compliments, complaints, and questions, the fact that the reply has nothing to do with the discussion is usually a

dead giveaway. Kroger tweeted: “Send your family #BackToSchool in fresh, clean clothes with today’s digital coupon!” This tweet is about a discount for back-to-school clothes but a user replied with: “@kroger Check out ‘Spyda’s World Annual Mental Illness & Disability Awareness game spydaworldorg-estw.eventbrite.com”. The response is meant to drive traffic to the user’s website in an attempt at self-promotion. Another example of a user’s self-promotion is when Johnson & Johnson tweeted “November is National Diabetes Month. Globally, 371 million people live with this disease today. Learn the facts” and a user responded with: “@JNJNews New oral med BELVIQ = improved glucose independent of weightloss”. As long as the response promotes the user and has little to do with the subject of company’s tweet, the reply was coded as User’s self-promotion.

The last category of replies is Give feedback/opinion. This category is neither positive nor negative so it is more of a neutral catch-all. Users’ opinions and suggestions also fall into this category such as this tweet: “@StateFarm you guys should insure boats/pwc’s! I don’t want to go to another insurance company for that! #SatisfiedStatefarmCustomer”. It is possible to view this reply as a possible complaint, but the hashtag points to a satisfied customer so this tweet is a user giving State Farm some valuable feedback. Conoco Phillips tweeted “Does #natgas reduce GHG emissions? Our study of lifecycle analyses says yes” and this user agreeing is an example of giving feedback by tweeting: “@conocophillips EPA agrees: Administrator Gina McCarthy says #natgas is a critical tool in tackling climate change”. By agreeing and providing a link to another article, this user is offering feedback to what Conoco Phillips tweeted earlier.

This study also coded for the company response to the user's tweet if it is present at the time of data collection. If the company response is present, two choices are available. The company response can either be coded as Emotional support or Informational support. Emotional support, as defined by Knight & Carpenter (2012), attempts to fix the situation by making the user feel better "and bolster their sense of self-worth. Such support frequently takes the form of non-tangible types of assistance" (p. 25). Emotional responses from companies usually do not say much but are unmistakable in their cheer such as this tweet from Lowe's, "@makeovermaestro Thanks, Martin! We think so too!" or this tweet from Coca-Cola, "@bryan_tbone That's awesome, Bryan!" Both responses are short without much text, but both offer encouragement and emotional support to the users. Informational support is clear information designed to help a user without information or "people in need of assistance" (Knight & Carpenter, 2012, p. 25). An example of an informational response from a company would be this tweet from Merck: "@mede66 Hello. You're looking for Merck Serono: merckserono.com". This tweet answers an inquiry from a user and it provides what the user is looking for. Merck did not include any exclamation points or words of encouragement, but just the simple information the user needed. Abbott Laboratories responded to a user's question with this tweet about health: "@ProcChain Adult nutritional needs vary and depend on many factors (sex, weight, age, health condition). It's best to talk to your doctor." Again, no emotional evident and Abbott does not try to promote its own brand either. Instead, Abbott provides the information the user needs and that is the end of the online interaction.

The procedure outlined above is for the content analysis of the tweets. The data from this procedure was used for both the interactivity and reply valence portions of this study. For interactivity, this study went above and beyond the simple interactivity indicators of retweets, replies, and favorites. Rather, this study explored instances in the data when a company tweets, when a company tweets and a user replies, and when a company tweets, a user replies, and the company replies to the reply. This three-level interaction is the aim for any public relations practitioner on social media and it is the target for this study. Examining the intricacies of three-level interaction on Twitter and its prevalence will be valuable. As for valence, users' replies to the company tweet were assessed for positivity and negativity. Some negativity is a show of honesty, as not every interaction with users will be in the form of a compliment.

In a pretest, two coders independently coded five randomly-selected companies' tweets and their coding appeared to be reliable (overall agreement = 92.8%). The discrepancies between the two coders were resolved by a later discussion. The remaining sample tweets were evenly divided and coded by each coder.

The other focal points of this study are business-to-business (B2B) versus business-to-consumer (B2C) and the time elapsed between a user's tweet and a company's response. Rouse (2014) defines a B2B as a business that conducts the "exchange of products, services, or information between businesses rather than between businesses and consumers." An objective entity that categorizes businesses as either a B2B or B2C does not exist. This study coded for B2B and B2C status for the companies that have Twitter accounts. The procedure for this involved capturing the text from the "About" section on corporate websites, removing any identifying text, and submitting the

text to two coders. Coders were instructed to look for text that explains selling products or services to other businesses or selling products and services to consumers. Using this procedure, the overall reliability was high at 96.8% in terms of percent agreement. Once reliability was established, the coders reconciled differences, split the rest of the sample, and coded independently.

The last focus for this study is the response time for companies responding to tweets from users. Social media is a rapid-fire atmosphere that necessitates quick responses. Some of the companies that display high levels of interactivity in the form of retweets, replies, favorites, and three-level interactivity could respond quickly to their users. A quick response time is perhaps another indicator of social media acumen. Knight & Carpenter (2012) wrote that continued use of an application such as Twitter is dependent on time resources and when it comes to customer service, “it is important to respond quickly and transparently to consumer tweets” (p. 30). In Knight & Carpenter’s (2012) study that examined 431 corporate tweets, the researchers found that the companies responded in less than 15 minutes to 15.7% of the tweets, between 16 minutes and 1.5 hours to 20.2% of the tweets, between 1.6 hours to 5.5 hours to 14.6% of the tweets, 5.6 hours to 12.5 hours to 11.2% of the tweets, and more than 12.6 hours to 38.3% of the tweets. Almost half of the tweets in Knight & Carpenter’s study received a response more than five hours later. The coding sheet used in this research and a summary of key variables coded are presented in the appendix.

CHAPTER 4: RESULTS

Descriptive Statistics of Fortune 500 Twitter Use

Within the Fortune 500, 420 companies have a Twitter account, and by using the methodology described in the previous chapter, a total of 9,550 tweets were collected for this research. In terms of engagement, the sample generated 0.68 replies, 11.28 retweets, and 5.78 favorites per tweet on average. Tweets were coded for hyperlinks, photos, videos, @ mentions, and hashtags. Companies made an effort to link to outside content as 77% (N = 7,353) of the tweets in the sample included at least one hyperlink. Photos and videos were used sparingly as companies included a photo in only 6.5% (N = 623) of tweets while videos only appeared in 2.6% (N = 250) of tweets in the sample. The majority of Fortune 500 tweets in the sample were directed at a mass audience and not at particular individuals as 68.4% (N = 6536) of tweets did not include an @ mention. For the tweets that did have an @ mention, 24.4% (N = 2334) were directed to one user, 5.1% (N = 488) directed at two users, and about 2% (N = 192) directed at three or more users. Hashtags followed a similar pattern. Almost two-thirds (N = 6156) of the tweets in the sample did not include a hashtag, 23.5% (N = 2246) had one, 8.2% had two (N = 785), and almost 4% (N = 363) had three or more hashtags.

Tweets were also coded for content. In terms of the subject matter, the vast majority of tweets in the sample were non-negative as 97.4% (N = 9292). The remaining 2.6% were coded as negative. Companies tweeted with a public relations purpose 57.2% (N = 5437) of the time followed by pure information or information not about the company itself at 21.2% (N = 2015), customer service at 7.2% (N = 685), sales and promotion or advertising at 5.8% (N = 552), non-informational such as holiday well-

wishes at 5.6% (N = 532), and job recruiting or placement at 3% (N = 286). The Fortune 500 did not exhibit much in terms of dialogic behavior. Slightly more than 90% (N = 8643) of the tweets did not answer or ask a question. But the almost 10% of the tweets that were dialogic asked questions far more often than answered questions. Asking a question comprised 81.6% (N = 740) of the dialogic tweets while answering a question made up the remaining 18.4% (N = 167).

The last two replies were collected for each tweet as mentioned before in the methodology chapter. This netted 1,538 replies for this research. Replies were content analyzed for purpose and 40.2% (N = 618) were neutral feedback or opinion followed by compliments at 32.5% (N = 500), complaints at 14.2% (N = 219), questions at 9.5% (N = 146), and self-promotion at 3.6% (N = 55). Companies were hesitant to respond to users' tweets as only 12.9% (N = 198) received a company response with the remainder going unanswered. Of the tweets that did receive a company response, the Fortune 500 employed an emotional support strategy 59.1% (N = 117) of the time. The remainder of the company responses used informational support at 40.9% (N = 81).

Going further, the Fortune 500 displayed little in terms of interactivity. The typical company tweet received no response evidenced by the fact that 83.9% (N = 8011) of the sample received no user reply. Reactive tweets are a user's reply to a company tweet and this occurred 14% (N = 1337) of the time. The rarest tweet was the company response to a user's reply which is characterized as interactivity. This occurred 2.1% (N = 198) of the time. Replies were recoded for tone to reveal that 53.3% (N = 819) were neutral followed by positive at 32.5% (N = 500) and negative at 14.2% (N = 219). Lastly, company response time to users' tweets was also recorded in minutes. This revealed that

companies responded on average in 1,166.55 minutes or in about 19.44 hours. A more accurate representation is the median as there are a few outliers that skew the results. The median response time to a user's tweet was just under an hour at 58 minutes.

Impressively, the most common response time was four minutes revealing that the Fortune 500 can be quick to respond depending on the company, industry, and specific situation.

Verified versus unverified company Twitter accounts were also examined in this research. Of the 420 Fortune 500 companies with a Twitter account, 181 were verified with the blue check mark. An independent samples t-test revealed that verified company accounts ($M = 16261.64$, $SD = 41117.59$) crafted significantly more tweets than unverified accounts ($M = 1836.5$, $SD = 2242.14$) at $t(419) = 5.43$, $p = .000$. An independent samples t-test revealed that verified company accounts ($M = 8835.11$, $SD = 42313.16$) followed significantly more users than unverified accounts ($M = 895.11$, $SD = 2608.67$) at $t(419) = 2.9$, $p = .004$. Lastly, an independent samples t-test showed that verified company accounts ($M = 437343.9$, $SD = 1379186.6$) had significantly more followers than unverified accounts ($M = 7659.77$, $SD = 14948.21$) at $t(419) = 4.83$, $p = .000$. In terms of engagement, verified accounts generate more replies, retweets, and favorites. Using an independent samples t-test, verified company accounts ($M = 2.41$, $SD = 5.06$) generated significantly more replies than unverified accounts ($M = .17$, $SD = .89$) at $t(9548) = 36.25$, $p = .000$. An independent samples t-test showed that verified accounts ($M = 45.78$, $SD = 195.8$) generated significantly more retweets than unverified accounts ($M = 1.14$, $SD = 3/48$). Using an independent samples t-test showed that verified accounts ($M = 24.68$, $SD = 99.8$) generated significantly more favorites than unverified

accounts ($M = .23$, $SD = .73$). Lastly, an independent samples t-test was conducted using Twitter account verification as the independent variable and response time as the dependent variable. Verified accounts ($M = 718.34$, $SD = 2867.6$) responded significantly faster than unverified accounts ($M = 2529.49$, $SD = 6237.55$) at $t(196) = -2.77$, $p = .006$.

Year-to-Year Trend Analysis

RQ1: *What are the year-to-year trends of Fortune 500 Twitter use from 2009 to 2013?*

A two-way ANOVA was conducted using company type and year as independent variables and engagement indicators, which are replies, retweets, and favorites, as dependent variables to examine how engagement has changed for the Fortune 500 from 2009 to 2013. Means for replies for 2009, 2010, and 2011 were $M = .000$ for both B2Bs and B2Cs. In 2012, B2Bs ($M = .10$, $SD = .50$) generated fewer replies than B2Cs ($M = .76$, $SD = 2.99$) and in 2013 as well with B2Bs ($M = .46$, $SD = 1.66$) and B2Cs ($M = 2.05$, $SD = 4.62$). This interaction was significant, $F(4, 9540) = 41.11$, $p = .000$.

B2Cs generated more retweets than B2Bs each year: 2009 ($M = .16$, $SD = .8$; $M = .04$, $SD = .22$); 2010 ($M = 3.44$, $SD = 29.25$; $M = .55$, $SD = 1.49$); 2011 ($M = 5.41$, $SD = 34.39$; $M = .94$, $SD = 1.77$); 2012 ($M = 21.12$, $SD = 127.71$; $M = 1.56$, $SD = 4.58$); and 2013 ($M = 26.73$, $SD = 140.6$; $M = 8.26$, $SD = 65.1$). This interaction was significant, $F(4, 9540) = 3.41$, $p = .009$.

The same pattern appeared for favorites as B2Cs generated more than B2Bs each year: 2009 ($M = .25$, $SD = 1.94$; $M = .06$, $SD = .25$); 2010 ($M = 1.18$, $SD = 12.51$, $M = .09$, $SD = .30$); 2011 ($M = 1.74$, $SD = 13.49$; $M = .11$, $SD = .39$); 2012 ($M = 8.64$, $SD =$

56.74; $M = .24$, $SD = .98$); and 2013 ($M = 17.04$, $SD = 86.35$; $M = 2.66$, $SD = 28.95$).

This interaction was significant, $F(4, 9540) = 7.8$, $p = .000$.

Post-hoc tests revealed that 2013 tweets ($M = 1.34$, $SD = 3.7$) generated significantly more replies than 2012 tweets ($M = .42$, $SD = 2.14$). There were also significantly more retweets in 2013 ($M = 18.51$, $SD = 127.38$) than in 2012 ($M = 11.0$, $SD = 89.32$), 2011 ($M = 2.78$, $SD = 22.19$), 2010 ($M = 1.58$, $SD = 17.57$), and 2009 ($M = .08$, $SD = .50$). There were only marginally significant more retweets in 2012 than in 2011 and 2010. Lastly, 2013 tweets ($M = 10.64$, $SD = 67.53$) generated significantly more favorites than in 2012 ($M = 4.29$, $SD = 39.64$), 2011 ($M = .78$, $SD = 8.68$), 2010 ($M = .48$, $SD = 7.5$), and 2009 ($M = .12$, $SD = 1.16$).

A series of two-way ANOVAs were conducted using year and company type as the independent variables with the number of hyperlinks, photos, videos, @ mentions, and hashtags as the dependent variables to examine how the Fortune 500 incorporates content into tweets over the years under review. Looking at the trends, B2Cs ($M = .90$, $SD = .31$) initially used more hyperlinks than B2Bs ($M = .80$, $SD = .42$) in 2009, but in all subsequent years, B2Cs used fewer hyperlinks than B2Bs including 2013 ($M = .78$, $SD = .49$; $M = .79$, $SD = .44$). See Table 11 for more information on hyperlinks. Photos were nonexistent in 2009 and 2010 tweets in this research and both B2Bs and B2Cs were nearly identical in photo usage in 2011, but B2Cs ($M = .15$, $SD = .37$) used more photos in all subsequent years including 2013 than B2Bs ($M = .09$, $SD = .30$). See Table 12 for more information on photos. B2Bs consistently used more videos each year in this research than B2Cs including 2013 ($M = .05$, $SD = .22$; $M = .03$, $SD = .17$). B2Cs initially used more @ mentions than B2Bs in 2009, 2010, and 2011, but in 2013, B2Bs

($M = .57$, $SD = .90$) used more @ mentions than B2Cs ($M = .48$, $SD = .84$). See Table 13 for more information on @ mentions. Lastly, B2Cs used more hashtags than B2Bs in 2009, but B2Bs have used more hashtags than B2Cs in every subsequent year including 2013 ($M = .73$, $SD = 1.0$; $M = .61$, $SD = .83$).

For hyperlinks, company type and year significantly interacted, $F(4, 9540) = 6.18$, $p = .000$. Post hoc tests revealed that 2013 tweets used significantly more hyperlinks than 2012 but fewer than 2010. Tweets in 2012 used significantly fewer hyperlinks than 2011, 2010, and 2009. For photos, company type and year significantly interacted, $F(4, 9540) = 6.94$, $p = .000$. Post hoc tests revealed that 2013 tweets used significantly more photos than 2012, 2011, 2010, and 2009. Tweets in 2012 also used significantly more photos than in 2011, 2010, and 2009. For @ mentions, company type and year significantly interacted, $F(4, 9540) = 2.66$, $p = .031$. Post hoc tests revealed that 2013 tweets used significantly more @ mentions than 2011, 2010, and 2009. Tweets in 2012 used significantly more @ mentions than 2011, 2010, and 2009. Tweets in 2011 used significantly more @ mentions than 2010 and 2009. The interaction between company type and year was significant in terms of hashtags, $F(4, 9540) = 2.51$, $p = .040$. Tweets in 2013 included more hashtags than tweets in 2012, 2011, 2010, and 2009. Tweets in 2012 used more hashtags than in 2011, 2010, and 2009. Tweets in 2011 used more hashtags in 2010 and 2009 and tweets in 2010 used more hashtags than in 2009. Only videos were not significant, $F(4, 9540) = 2.27$, $p = .060$. See Figures 1 through 4 for more information.

Correlation of Fortune 500 Ranking and Engagement Indicators

RQ2: *Is there a relationship between Fortune 500 ranking and engagement in the form of replies, retweets, and favorites?*

A Pearson r correlation was run involving Fortune 500 ranking and engagement in the form of replies, retweets, and favorites. Based on the results, the higher the ranking of the company, the more engagement can be expected. Fortune 500 ranking had a negative correlation with replies of $r = -.102$, $p = .000$, and retweets of $r = -.044$, $p = .000$.

Favorites also had a negative correlation but the relationship was not significant. See Table 17 for more information.

Interactivity

H1: *Tweets with a hyperlink will generate more engagement in the form of replies, retweets, and favorites than tweets without a hyperlink.*

The content of the tweets had a significant impact in generating engagement in the form of replies, retweets, and favorites. When the Fortune 500 included a hyperlink in the tweet, engagement decreased. On average, tweets with hyperlinks generated 0.59 replies, 8.59 retweets, and 5.2 favorites, but tweets without hyperlinks generated 0.94 replies, 20.28 retweets, and 7.72 favorites. An independent samples t-test was performed and the mean difference for tweets with hyperlinks ($M = .59$, $SD = 2.54$) and tweets without hyperlinks ($M = .94$, $SD = 3.17$) was significant for replies, $t(9,548) = 5.22$, $p = .000$. The mean difference for tweets with hyperlinks and retweets ($M = 8.59$, $SD = 60.97$) and tweets without hyperlinks ($M = 20.28$, $SD = 163.93$) was significant $t(9,548) = 5.06$, $p = .000$. The mean difference for tweets with hyperlinks and favorites ($M = 5.2$,

SD = 46.05) and tweets without hyperlinks (M = 7.72, SD = 56.45) was also significant $t(9,548) = 2.13, p = .034$. Based on these results, H1 is not supported as tweets without a hyperlink generate more engagement. See Table 18 for more information.

H2: *Tweets with a photo will generate more engagement in the form of replies, retweets, and favorites than tweets without a photo.*

An opposite relationship was apparent in terms of photos. When the Fortune 500 included a photo in a tweet, 1.6 replies, 28.52 retweets, and 22.48 favorites were generated on average. But if a photo was not included in the tweet, engagement numbers decreased to 0.61 replies, 10.06 retweets, and 4.61 favorites on average. An independent samples t-test was performed and the mean difference for tweets with a photo and replies (M = 1.6, SD = 3.34) and tweets without a photo (M = .61, SD = 2.64) was significant $t(9,548) = -8.93, p = .000$. The mean difference for tweets with a photo and retweets (M = 28.52, SD = 133.23) and tweets without a photo (M = 10.06, SD = 91.83) was significant $t(9,548) = -4.7, p = .000$. The mean difference for tweets with a photo and favorites (M = 22.48, SD = 114.12) and tweets without a photo (M = 4.61, SD = 39.98) was also significant $t(9,548) = -8.93, p = .000$. H2 was supported as tweets with a photo generated more engagement than tweets without a photo. See Table 19 for more information.

H3: *Tweets with a video will generate more engagement in the form of replies, retweets, and favorites than tweets without a video.*

An independent samples t-test was run to examine the effect videos have on a tweet's engagement. No videos (M = .68, SD = 2.72) generated slightly more replies than tweets with a video (M = .66, SD = 2.03). This held true for retweets as no videos (M = 11.29, SD = 96.09) generated more retweets than videos (M = 10.8, SD = 52.44). Lastly,

tweets without a video ($M = 5.74$, $SD = 48.8$) generated fewer favorites than tweets with a video ($M = 7.29$, $SD = 42.92$). However, replies [$t(9548) = .068$, $p = .946$]; retweets [$t(9548) = .078$, $p = .938$]; and favorites [$t(9548) = -.49$, $p = .619$] were not significant and H3 is not supported.

H4: *Tweets with an @ mention will generate more engagement in the form of replies, retweets, and favorites than tweets without an @ mention.*

When the Fortune 500 directed tweets to a specific user, it had a chilling effect on engagement. Tweets that had @ mentions averaged 0.55 replies, 6.69 retweets, and 4.61 favorites. Tweets that did not include @ mentions generated 0.74 replies, 13.39 retweets, and 6.32 favorites. An independent samples t-test was performed and the mean difference for tweets with an @ mention and replies ($M = .55$, $SD = 2.04$) and tweets without an @ mention ($M = .74$, $SD = 2.96$) was significant $t(9,548) = 3.12$, $p = .001$. The mean difference for tweets with an @ mention and retweets ($M = 6.7$, $SD = 59.99$) and tweets without an @ mention ($M = 13.39$, $SD = 107.57$) was also significant $t(9,548) = 3.2$, $p = .001$. The mean difference between tweets with an @ mention and tweets without in generating favorites was not significant. Based on these results, H4 is not supported as tweets with an @ mention generates less engagement. See Table 20 for more information.

H5: *Tweets with a hashtag will generate more engagement in the form of replies, retweets, and favorites than tweets without a hashtag.*

A one-way ANOVA was run to examine the effect hashtags have on engagement because companies most commonly use zero, one, two, or three plus hashtags in tweets. Interestingly, hashtags improved engagement but only to an extent. Tweets without a hashtag generated 0.55 replies, 9.8 retweets, and 4.76 favorites. One hashtag increased

engagement to 0.99 replies, 15.33 retweets, and 7.02 favorites. Two hashtags generated 0.9 replies, 13.7 retweets, and 9.47 favorites, indicating that multiple hashtags can somewhat dampen engagement. Further evidencing this, three or more hashtags only generated 0.34 replies, 5.97 retweets, and 7.42 favorites. There was a significant effect of the amount of hashtags on replies at the $p < .05$ level for the four conditions [$F(3, 9546) = 18.28, p = .000$]. There was also a significant effect of the amount of hashtags on favorites at the $p < .05$ level for the four conditions [$F(3, 9546) = 3.03, p = .028$]. However, the amount of hashtags did not have a significant effect on the number of retweets as $p = .066$.

Post hoc comparisons indicated that the mean for replies generated with no hashtags ($M = .55, SD = 2.47$) was significantly lower than one hashtag ($M = .99, SD = 3.04$) and two hashtags ($M = .9, SD = 3.61$). One hashtag ($.99, SD = 3.04$) generated significantly more replies than three or more hashtags ($M = .34, SD = 1.4$). Two hashtags ($M = .9, SD = 3.61$) generated significantly more replies than three or more hashtags ($M = .34, SD = 1.4$). Post hoc comparisons also indicated that the mean for favorites generated with no hashtags ($M = 4.76, SD = 42.55$) was significantly less than the mean for favorites generated by two hashtags ($M = 9.47, SD = 77.99$). No other relationship was significant for hashtags in generating favorites. Based on these results, H5 is supported as including a hashtag within a tweet will generate more engagement than not including a hashtag.

RQ3: *Can using too many interactive functions decrease engagement?*

Using a hyperlink within a tweet decreases engagement along with using an @ mention. These are both functional interactivity and both decrease the number of replies,

retweets, and favorites per tweet. Additionally, based on the post hoc tests, too many hashtags can decrease engagement. Tweets without a hashtag generated less engagement than tweets with one or two hashtags. However, three or more hashtags generated less engagement than tweets with one or two hashtags. So, too many hashtags can have a dampening effect on engagement. See Table 21 for more information.

H6: *Companies responding to a user's question will do so faster than any other tweet purpose posed by a user.*

A one-way ANOVA was conducted to reveal what type of user reply generated the fastest company response time. The mean response times to address user replies from fastest to slowest was complaint (M=540.69, SD = 978.08), compliment (M=606.83, SD = 1,428.09), feedback/opinion (M=1,003.96, SD = 2,657.51), and question (M=2,695.07, SD = 7,574.08). There was a statistically significant difference between groups as determined by a one-way ANOVA ($F(3, 192) = 2.75, p = .044$). A post-hoc test revealed that compliments (M = 606.83, SD = 1,428.1) were responded to significantly faster than questions (M = 2,695.07, SD = 7,652.12). No other relationship between reply purpose response times was significant. H6 was not supported as complaints were the reply purpose that received the fastest company response. Questions actually received the slowest response. See Table 22 for more information.

RQ4: *Does company response time to user tweets have the ability to generate engagement in the form of replies, retweets, and favorites?*

A one-way ANOVA was used to test the effect company response time has on replies, retweets, and favorites. Recoding company response time was necessary now that it is an independent variable. This process netted six groups: 0 to 30 minutes (37.9%, N =

75), 31 minutes to two hours (22.2%, N = 44), two to six hours (11.1%, N = 22), six to 12 hours (4%, N = 8), 12 to 24 hours (10.6%, N = 21), and more than 24 hours (14.1%, N = 28). However, company response time is non-significant variable in terms of replies [$F(5, 197) = .889, p = .49$], retweets [$F(5, 197) = .659, p = .655$], and favorites [$F(5, 197) = .527, p = .756$].

Additional variables were used in two-way ANOVAs. The interaction between company type and response time was non-significant for replies, $F(5, 169) = .072, p = .996$; for retweets, $F(5, 169) = .148, p = .98$; and for favorites, $F(5, 169) = .148, p = .98$. The interaction between reply valence and response time was non-significant for replies, $F(9, 169) = .554, p = .833$; for retweets, $F(9, 169) = .203, p = .994$; and for favorites, $F(9, 169) = .759, p = .654$. Lastly, no significant three-way interaction exists between company type, reply valence, and response time for replies, $F(4, 169) = .076, p = .989$; for retweets, $F(4, 169) = .129, p = .972$; and for favorites, $F(4, 169) = .111, p = .978$. Based on these results, timely or slow responses have no effect on Twitter engagement.

Word-of-Mouth Strategies through Twitter

H7: *Companies will use a public relations strategy when tweeting more often than an advertising strategy.*

Companies use social media for two main purposes: advertising and public relations. To see which purpose is used most often, a paired sample t-test was conducted examining advertising and public relations tweets. There was a significant difference between advertising ($M = .06, SD = .24$) and public relations ($M = .61, SD = .49$); $t(8,974) = -84.65, p = .000$. In this research, the Fortune 500 tweeted with an advertising

purpose 552 times and tweeted with a public relations purpose 5,437 times. H7 is supported as companies employed a public relations strategy more often than an advertising strategy. See Table 23 for more information.

RQ5: *What tweet purpose used by the Fortune 500 generates the most engagement in the form of replies, retweets, and favorites?*

A one-way ANOVA was conducted to reveal what effect the primary purpose of a tweet had on engagement in terms of replies, retweets, and favorites. The mean number of replies from most to least based on primary purpose was non-informational ($M = 2.31$, $SD = 5.44$), sales/promotion ($M = 1.92$, $SD = 4.23$), public relations ($M = 0.55$, $SD = 2.38$), customer service ($M = 0.52$, $SD = 2.46$), pure information ($M = 0.4$, $SD = 1.81$), and job recruiting ($M = 0.02$, $SD = 0.19$). See Table 24 for more information.

For retweets, non-informational ($M = 61.66$, $SD = 260.26$) generated the most followed by sales/promotion ($M = 13.96$, $SD = 51.64$), public relations ($M = 9.58$, $SD = 71.45$), pure information ($M = 7.21$, $SD = 99.2$), customer service ($M = 0.64$, $SD = 5.02$), and job recruiting ($M = 0.44$, $SD = 1.27$). See Table 25 for more information.

Non-informational ($M = 27.51$, $SD = 111.82$) generated the most favorites followed by sales/promotion ($M = 8.47$, $SD = 49.12$), public relations ($M = 5.51$, $SD = 46.23$), pure information ($M = 2.88$, $SD = 36.67$), customer service ($M = 0.21$, $SD = 1.3$), and job recruiting ($M = 0.04$, $SD = 0.22$). See Table 26 for more information.

All tests were significant with replies ($F(5, 9501) = 75.42$, $p = .000$), retweets ($F(5, 9501) = 33.85$, $p = .000$), and favorites ($F(5, 9501) = 25.83$, $p = .000$).

Post-hoc tests were conducted for each engagement variable. For replies, non-informational ($M = 2.31$, $SD = 5.44$) generated significantly more replies than all

purposes except for sales/promotion. Sales/promotion ($M = 1.92$, $SD = 4.23$) generated significantly more replies than all purposes except for non-informational. Public relations ($M = 0.55$, $SD = 2.38$) generated significantly more replies than customer service ($M = 0.52$, $SD = 2.46$). All other relationships were non-significant. Post-hoc tests for retweets revealed that non-informational ($M = 61.66$, $SD = 260.26$) generated significantly more retweets than sales/promotion ($M = 13.96$, $SD = 51.64$), public relations ($M = 9.58$, $SD = 71.45$), pure information ($M = 7.21$, $SD = 99.2$), customer service ($M = 0.64$, $SD = 5.02$), and job recruiting ($M = 0.44$, $SD = 1.27$). All other relationships were non-significant. Lastly, a post-hoc tests for favorites revealed that non-informational ($M = 27.51$, $SD = 111.82$) generated more favorites than sales/promotion ($M = 8.47$, $SD = 49.12$), public relations ($M = 5.51$, $SD = 46.23$), pure information ($M = 2.88$, $SD = 36.67$), customer service ($M = 0.21$, $SD = 1.3$), and job recruiting ($M = 0.04$, $SD = 0.22$). Sales/promotion ($M = 8.47$, $SD = 49.12$) generated significantly more favorites than customer service ($M = 0.21$, $SD = 1.3$). All other relationships were non-significant. To conclude, the tweet purpose that generated the most engagement was non-informational.

Message Valence

H8: *Negative replies will generate the most engagement in the form of replies, retweets, and favorites than positive or neutral replies.*

A one-way ANOVA was run using reply valence as the independent variable and engagement as the dependent variable in the form of replies, retweets, and favorites. Neutral replies ($M = 4.41$, $SD = 5.77$) generated the most replies followed by negative replies ($M = 4.29$, $SD = 5.82$) and positive replies ($M = 3.69$, $SD = 5.01$). The effect was

not significant, $F(2, 1537) = 2.69, p = .068$. For retweets, neutral replies ($M = 73.82, SD = 281.31$) generated the most followed by negative ($M = 47.38, SD = 136.51$) and positive replies ($M = 28.36, SD = 99.91$). The effect was significant, $F(2, 1537) = 6.84, p = .001$. Lastly, neutral replies ($M = 38.37, SD = 134.25$) generated the most favorites followed by negative ($M = 37.0, SD = 114.52$) and positive replies ($M = 15.39, SD = 59.42$). The effect for favorites was significant, $F(2, 1535) = 6.9, p = .001$.

Post hoc tests reveal that neutral replies ($M = 4.41, SD = 5.77$) only marginally generated more replies than positive replies ($M = 3.69, SD = 5.01$), but no other relationship was significant for replies. Neutral replies ($73.82, SD = 281.31$) also generated significantly more retweets than positive replies ($M = 28.36, SD = 99.91$), but no other relationship was significant for retweets. Lastly, neutral replies ($M = 38.37, SD = 134.25$) generated significantly more favorites than positive replies ($M = 15.39, SD = 59.42$). Negative replies ($M = 37.0, SD = 114.52$) also generated significantly more favorites than positive replies.

H8 is not supported as neutral replies generated the most engagement in the form of replies, retweets, and favorites. See Table 27 for more information.

H9: *Negative replies will receive a faster company response than positive or neutral replies.*

To examine the effect user reply valence has on company response time, a two-way ANOVA was conducted with reply valence and company type as the independent variables and company response time in minutes as the dependent variable. For positive replies, B2Cs ($M = 464.13, SD = 1042.3$) respond faster than B2Bs ($M = 1375.31, SD = 2632.66$). For negative replies, B2Cs ($M = 154.8, SD = 414.43$) respond faster than B2Bs

($M = 1183.83$, $SD = 1329.12$). For neutral replies, B2Cs ($M = 1082.14$, $SD = 3198.62$) respond faster than B2Bs ($M = 5403.87$, $SD = 11565.23$). However, this two-way interaction between reply valence and company type is not significant, $F(2, 192) = 2.59$, $p = .078$. While negative replies did receive the fastest responses, the results were non-significant, so H9 was not supported. See Table 28 for more information.

H10: *Company tweets coded as negative will generate more replies, retweets, and favorites than company tweets coded as positive.*

This study examines the importance of a tweet's subject matter in the form of non-negative and negative generating replies, retweets, and favorites. An independent samples t-test was conducted for non-negative versus negative tweets with retweets, favorites, and replies as the dependent variables. Negative company tweets ($M = .71$, $SD = 2.02$) generated more replies than non-negative tweets ($M = .68$, $SD = 2.72$). However, negative tweets ($M = 8.68$, $SD = 60.67$) generated fewer retweets than non-negative tweets ($M = 11.36$, $SD = 96.0$) and fewer favorites ($M = 3.88$, $SD = 32.73$; $M = 5.83$, $SD = 49.03$). None of the t-tests were significant revealing that negativity does not stand out more to users or lead to more engagement in the form of replies [$t(9536) = -.183$, $p = .855$]; retweets [$t(9536) = .436$, $p = .663$]; and favorites [$t(9536) = .623$, $p = .534$]. H10 was not supported as negativity failed to generate more engagement in the form of replies, retweets, and favorites. See Table 29 for more information.

Company Type

H11: *On average, B2C companies will include more visual elements (photos and videos) within tweets than B2B companies.*

Regarding visual elements in tweets, B2Cs (n = 416) used significantly more photos than B2Bs (n = 211) when tweeting, $X^2(1, N = 9550) = 89.25, p = .000$. However, B2Bs (n = 142) included more videos than B2Cs (n = 108) when tweeting but this difference was not significant. H11 was partially supported as B2Cs used more photos than B2Bs. For videos, B2Bs used more videos but this was not significant. See Table 30 for more information.

H12: *On average, B2C companies will tweet more than B2B companies.*

H13: *On average, B2C companies will follow more users than B2B companies.*

H14: *On average, B2C companies will have more followers on Twitter than B2B companies.*

An important variable under examination is business designation in the form of B2B and B2C. There was an almost even split between B2B and B2C companies as 4,954 tweets were coded as B2B while 4,596 were coded as B2C. Companies classified into these categories used Twitter differently and generated varying levels of engagement. B2C companies were active on Twitter as these companies averaged 12,620.02 tweets, followed 7,123.28 users, and had 326,948.5 followers at the time of data collection. In comparison, B2Bs averaged 2,573.61 tweets, followed 951.82 users, and had 31,908.25 followers at the time of data collection. An independent sample t-test was performed and the mean difference for number tweets for B2Cs (M = 12,620.02, SD = 37,143.54) was significantly greater than for B2Bs (M = 2,573.61, SD = 3,146.53) at

$t(419) = -3.74, p = .000$. The mean difference for users followed for B2Cs ($M = 7,123.28, SD = 37,806.48$) was significantly greater than for B2Bs ($M = 951.82, SD = 1,680.08$) at $t(419) = -2.26, p = .024$. Lastly, the mean difference for number of followers for B2Cs ($M = 326,948.5, SD = 1,230,879.22$) was significantly greater than for B2Bs ($M = 31,908.25, SD = 190,978.45$) at $t(419) = -3.29, p = .001$. H12, H13, and H14 were all supported as B2Cs tweet more, follow more user, and are followed by more users than B2Bs. See Table 31 for more information.

H15: *On average, B2C tweets will generate more replies, retweets, and favorites than B2B tweets.*

Individual tweets crafted by B2C companies averaged 1.19 replies, 19.5 retweets, and 10.87 favorites while B2B tweets generated 0.19 replies, 3.65 retweets, and 1.06 favorites. An independent sample t-test was performed and the mean difference for number of replies per tweet for B2Cs ($M = 1.19, SD = 3.67$) was significantly greater than for B2Bs ($M = .19, SD = 1.05$) at $t(9,548) = -18.4, p = .000$. The mean difference for number of retweets per tweet for B2Cs ($M = 19.5, SD = 118.9$) was significantly greater than for B2Bs ($M = 3.65, SD = 65.1$) at $t(9,548) = -8.16, p = .000$. Lastly, the mean difference for number of favorites per tweet for B2Cs ($M = 10.87, SD = 67.37$) was significantly greater than for B2Bs ($M = 1.06, SD = 17.48$) at $t(9,548) = -9.89, p = .000$. H15 was supported as B2Cs average more replies, retweets, and favorites per tweet than B2Bs. See Table 32 for more information.

H16: *B2Cs will respond faster to user replies than B2Bs.*

In terms of company response time to users' replies, B2Cs averaged 761.81 minutes, or 12.7 hours, while B2Bs averaged 3,118.82 minutes, or just more than two

days at 51.98 hours. An independent samples t-test was run and B2Cs responded significantly faster than B2Bs ($p = .002$). H16 was supported as B2Cs respond faster to user replies than B2Bs. See Table 33 for more information.

Interaction Predictions

H17: *Interactivity and company type will significantly interact when generating engagement in the form of replies, retweets, and favorites.*

A two-way ANOVA was run to fully analyze the relationship between interactivity and company type. B2B reactive tweets generated on average 2.29 replies with interactive tweets generating 2.88 replies. B2C reactive tweets generated on average 3.76 replies with interactive tweets generating 7.75 replies. The relationship between interactivity and company type concerning replies as the dependent variable was significant, $F(2, 9543) = 167.53, p = .000$. Post hoc comparisons indicated that reactive tweets ($M = 3.76, SD = 5.05$) generated significantly fewer replies than interactive tweets ($M = 6.91, SD = 7.64$). See Table 34 for more information.

B2B tweets with no replies generated on average 1.1 retweets, B2B reactive tweets generated 35.67 retweets, and B2B interactive tweets generated 2.24 retweets. In comparison, B2C tweets with no replies generated on average 5.12 retweets, B2C reactive tweets generated 58.12 retweets, and B2C interactive tweets generated 94.05 retweets. The relationship between interactivity and company type concerning retweets as the dependent variable was significant, $F(2, 9543) = 16.38, p = .000$. Post hoc comparisons indicated that tweets without a reply ($M = 2.83, SD = 32.71$) generated significantly fewer retweets than reactive tweets ($M = 51.99, SD = 194.84$) and

interactive tweets ($M = 78.29$, $SD = 346.02$). Reactive tweets ($M = 51.99$, $SD = 194.84$) generated significantly fewer retweets than interactive tweets ($M = 78.29$, $SD = 346.02$). See Table 35 for more information.

B2B tweets with no replies generated on average .22 favorites, B2B reactive tweets generated 11.49 favorites, and B2B interactive tweets generated 1.61 favorites. Conversely, B2C tweets with no replies generated on average 2.02 favorites, B2C reactive tweets generated 38.45 favorites, and B2C interactive tweets generated 34.19 favorites. The relationship between interactivity and company type concerning favorites as the dependent variable was significant, $F(2, 9543) = 38.07$, $p = .000$. Post hoc comparisons indicated that tweets without a reply ($M = 1.0$, $SD = 15.5$) generated significantly fewer favorites than reactive tweets ($M = 31.09$, $SD = 112.42$) and interactive tweets ($M = 28.6$, $SD = 115.96$). No significant relationship exists between reactive and interactive tweets concerning favorites. Based on these results, H17 is supported. See Table 36 for more information.

H18: *Interactivity and company type will significantly interact when generating company response time.*

Interactivity, as defined in this research, has three levels: no replies, reactive, and interactive. Only the interactive level has the company reply so the reactive level is not included in the two-way ANOVA for company type and interactivity affecting company response time. With that being said, B2Cs ($M = 761.81$, $SD = 2406.79$) respond faster to user replies than B2Bs ($M = 3118.82$, $SD = 7986.49$). However, this interaction was not significant and H18 is not supported. See Table 33 for more information.

H19: *Reply valence and company type will significantly interact when generating engagement in the form of replies, retweets, and favorites.*

Two-way ANOVAs were conducted using company type and reply valence as independent variables with replies, retweets, and favorites as the dependent variables. Neutral user replies generated the most replies followed by negative and positive user replies for both B2Bs and B2Cs. However, this interaction was not significant, $F(2, 1532) = .01, p = .99$. See Table 37 for more information.

B2Cs followed a similar pattern as neutral replies generated the most retweets followed by negative and then positive replies. Neutral replies generated the most retweets followed by positive and then negative replies for B2Bs. However, this interaction was not significant, $F(2, 1532) = .37, p = .691$. See Table 38 for more information.

Negative replies generated the most favorites followed by neutral and then positive replies for B2Cs. For B2Bs, neutral replies generated the most favorites followed by positive and then negative replies. However, this interaction was not significant, $F(2, 1532) = 1.082, p = .339$. See Table 39 for more information. Based on these results, H19 was not supported as there is not a significant interaction between reply valence and company type when generating engagement.

H20: *Reply valence and company type will significantly interact when generating company response time.*

To examine the effect user reply valence has on company response time, a two-way ANOVA was conducted with reply valence and company type as the independent variables and company response time in minutes as the dependent variable. For positive

replies, B2Cs ($M = 464.13$, $SD = 1042.3$) respond faster than B2Bs ($M = 1375.31$, $SD = 2632.66$). For negative replies, B2Cs ($M = 154.8$, $SD = 414.43$) respond faster than B2Bs ($M = 1183.83$, $SD = 1329.12$). For neutral replies, B2Cs ($M = 1082.14$, $SD = 3198.62$) respond faster than B2Bs ($M = 5403.87$, $SD = 11565.23$). However, this two-way interaction between reply valence and company type is not significant, $F(2, 192) = 2.59$, $p = .078$. While negative replies did receive the fastest responses, the results were non-significant, so H20 was not supported. See Table 40 for more information.

RQ6: *Are there three-way interaction effects among interactivity, message valence, and company type on a tweet's communication effects, measured in its number of replies, retweets, and favorites?*

Another objective of this research is to examine if there is a three-way interaction between company type in the form of B2B and B2C; reply valence categorized as positive, neutral, and negative; and interactivity described as no reply, reactive, and interactive. The dependent variables in this model are the engagement indicators, which are replies, retweets, and favorites. To analyze this, three-way ANOVA tests were conducted.

The first dependent variable analyzed was replies. However, no significant three-way interaction existed between company type, reply valence, and interactivity, $F(2, 1523) = 0.84$, $p = .43$. The next engagement variable was retweets. No significant three-way interaction existed between company type, reply valence, and interactivity, $F(2, 1523) = 1.1$, $p = .332$. Lastly, in terms of favorites, no significant three-way interaction existed between company type, reply valence, and interactivity, $F(2, 1523) = 0.27$, $p = .766$.

In short, no three-way interaction exists between company type, reply valence, and interactivity. See Tables 41 through 43 for more information. A summary of all hypothesis-testing and research question examinations is presented in Table 1 and Table 2.

CHAPTER 5: DISCUSSION

Theoretical Implications

This research examined almost 10,000 tweets crafted by the Fortune 500 from 2009 to 2013. To understand the impact of the data, a theoretical discussion is needed. The following section will first focus on CMC followed by interactivity, WOM, message valence, and company type in the form of B2B versus B2C. Many of the results in this research align with previous theories, but a few results differ from established theories. The following section discusses this.

CMC

Computer-mediated communication is defined as communication through a digital device with a screen such as a laptop or cell phone or through a platform such as Facebook or Twitter. Even though both parties in a CMC dialogue may be human, the communication is vastly different than face-to-face communication. A key component of CMC is the expectation of a timely response (Meluch & Walter, 2012), and this research points to some companies making an effort in this regard with others failing to respond quickly. The average company response to user's tweet in this research was just more than 19 hours. This figure is by no means impressive but with 420 companies in the sample, there are bound to be a few outliers. A more accurate depiction of the Fortune 500's response time is the median, which was 58 minutes. More impressive, is the mode, which was four minutes. Companies responding this quickly were often airlines, but Procter Gamble actually responded to a user's reply in less than a minute within this sample. A quick response is taken as a sign of respect by users and a great deal of

importance is placed on disruptions or pauses in CMC (Kalman et al., 2006). Nowadays, Facebook's messenger and Apple's iChat reveal when the other party is in the process of typing to satiate our desire to know when a response is imminent. In this regard, service industries such as airlines, rental car companies, and pharmacies are adhering to the demand for rapid responses. However, companies in manufacturing or banking were slow to respond. Overall, companies can certainly improve response time to users' replies.

Another important component of CMC is initiating and maintaining a dialogue. One common strategy to achieve this is to ask questions. Questions are quite prevalent on social media as questions not only reduce uncertainty between parties but also typically elicit a response, which can then trigger additional engagement (Antheunis et al., 2012). The Fortune 500 rarely incorporated dialogic communication into tweets in this sample, but when the companies did, questions were used more than 80% of the time. This points to companies initiating the CMC dialogue and generating engagement as dialogic tweets generated nearly three times more replies than non-dialogic tweets. Questions may not generate more retweets or favorites, but questions do generate more replies, and this is an example of how a lingering question on a digital screen just begs to be answered (Jiang, Bazarova & Hancock, 2013). Users see a question on their Twitter feed and the natural reaction is to answer it, and while this may be a simple way to increase engagement, it is a cornerstone of CMC theory.

Lastly, regular updates and communication within CMC improves credibility in the eyes of users (Westerman, Spence & Van Der Heide, 2014). This is apparent in the results as replies, retweets, and favorites increased from 2009 to 2013, pointing to increased company tweeting activity. Companies have also grown more sophisticated in

tweeting as the typical 2009 tweet featured text and a hyperlink while the typical tweet in 2013 included text, a hyperlink, photos, and hashtags. This increased use of functional interactivity speaks to companies seeking to engage and a desire to test Twitter's capabilities.

Interactivity

Interactivity research is often classified as interactivity-as-product or interactivity-as-process. Interactivity-as-product, or functional interactivity, examines the physical options a user is presented within a technological platform that can be used to interact with others (Stromer, 2004). This research examines Fortune 500 Twitter use from a product or functional perspective. With the 140-character limit that Twitter imposes, companies often include a hyperlink to additional information such as earnings reports or lengthy statements from management. According to functional interactivity, hyperlinks would be an example of interactivity, but the results in this research show that hyperlinks actually decrease engagement on Twitter. The presence of a hyperlink in a Fortune 500 tweet led to fewer replies, retweets, and favorites. Visual elements had an opposite effect for Fortune 500 tweets. When companies included a photo, replies, retweets, and favorites increased. Videos did not have a significant effect on engagement. While visual elements may seem interactive, functional interactivity is merely anything that can grab attention and perhaps lead to engagement. Not only do photos increase engagement, but they also reveal that Twitter is becoming more visual than in its early text-centric days.

Twitter's primary engagement drivers are the @ mention and the hashtag. The @ mention delivers the tweet directly to other parties on a more one-to-one basis, despite

being visible to all. Not surprisingly, including an @ mention decreases replies, retweets, and favorites for the Fortune 500. From a user's perspective, it would be odd to retweet or favorite a conversation a company was having with someone else. However, the hashtag almost guarantees increased engagement. When the Fortune 500 used one to two hashtags, engagement significantly increased when compared to tweets without a hashtag. However, three or more hashtags decreased engagement when compared to one or two hashtags. This points to a saturation level for hashtags and to an extent, functional interactivity. Twitter's allure is simplicity and if tweets appear cluttered, perhaps users will be less motivated to engage.

The other side of interactivity, activity-as-process, studies how the two parties interact and synchronize their communication. A key component of interactivity-as-process, or contingent interactivity, is reciprocity and conversation quality (Sundar, 2004). This research also examines interactivity from a contingency perspective. By looking at which user reply purpose elicits the fastest company response time, it becomes clear what the Fortune 500 values when responding to a user's reply. Interestingly, the results point to complaints receiving the fastest response time followed by compliments, neutral feedback, and questions. The fact that the extremes of complaints and compliments received the fastest company responses aligns with public relations theory. Companies are quick to diminish harm and to accept gratitude but are deliberate when the user's reply is neutral and perhaps conducting time consuming research for the perfect answers to questions. It is important to appear responsive from a company perspective because effective contingency interactivity leads to improved reputation and increased loyalty (Lee & Park, 2013). However, that is the only apparent reward for rapid response

times as responding quickly to a user's reply does not lead to increased replies, retweets, or favorites. While the individual user may appreciate the timely response, the population at large probably does not care enough to retweet or favorite the company's tweet. Also, the time stamps on the tweets are not always easy to see making it difficult to influence engagement.

A common theme in public relations literature is how companies rarely ever use social media to interact at a one-to-one level with users. Some messages are best served to be disseminated in a traditional top-down manner, but social media's value is maximized when interaction and dialogue are present (Waters & Williams, 2011). This is apparent in this research as well. Of the 9,546 company tweets in this research, almost 84% received no replies, 14% received only user replies, and slightly more than 2% displayed interaction in the form of the company responding to a user's reply. Interactivity is said to improve a company's credibility because the additional communication is perceived as transparent (Saffer, Sommerfeldt & Taylor, 2013). Recently, a user tweeted about long lines at checkout counters at Walmart, and the company and user traded three exchanges with multiple employees before Walmart apologized and promised to improve. This transparent interaction not only reassures the user, but also improves the company's standing around the world. However, this research will be another example of companies predominantly using Twitter to disseminate messages in much the same manner as traditional media such as television and radio.

WOM

The nature of Twitter is word-of-mouth communication because users are so motivated to disclose personal experiences and it is so easy for this information to travel around the world. Even though companies have displayed a reticence toward interacting with users on social media, Twitter is the perfect platform for contingent interactivity (Saffer, Sommerfeldt & Taylor, 2013), due in large part because users are so active. No longer should companies view users on Twitter as targets (Corstjens & Umblijs, 2012), but rather as equals working toward a common goal. This tension between target and user is akin to advertising versus public relations; two of the primary strategies companies employ when tweeting. Advertising and WOM share a connection because advertising starts the conversation and WOM generates the sales (Keller & Fay, 2012). In this research, almost 60% of the tweets were categorized as public relations while advertising comprised slightly more than 7% of the tweets. This difference was significant, and points to how Twitter users prefer not to see advertising in their feeds (Lee & Youn, 2009). Conveying messages through social media sidesteps slick advertisers and does not appear manipulative (Golan & Zaidner, 2008). The fact that companies use Twitter for public relations far more than advertising is apparent in this study.

Some of Walmart's first tweets described discounts for electronics, but the company now converses with users or addresses customer service concerns. Twitter serves as a customer service forum for many companies. These public, near-permanent complaints are increasing and have the platform to shape a company's reputation (Schultz, Utz & Goritz, 2011). Much of social media literature is devoted to companies using social media for public relations, advertising, or customer service. This research

found that companies tweet with a public relations purpose (57.2%) most often followed by pure information (21.1%), customer service (7.2%), advertising (5.8%), non-informational (5.6%), and job recruiting (3%). These results align with the literature, but interestingly, non-informational generated the most engagement in the form of replies, retweets, and favorites. Examples of non-informational tweets include a company's holiday well-wishes or an inspirational quote. While tweeting "Happy Cinco de Mayo!" may seem trite coming from a Fortune 500 company, tweets such as this generated four times more replies, six times more retweets, and five times more favorites than public relations tweets. Non-informational tweets place companies on the same level as a user's friends, an effective strategy to reduce uncertainty thereby creating a predictable structure for communication and increased attraction between parties (Berger & Calabrese, 1975). By reducing uncertainty through positive, non-informational tweets, companies acquire a loyal legion of social media followers along with impressive engagement.

Reply Valence

Company messages, particularly advertising, are most effective when a product or service mentions a few shortcomings or negative aspects (Roering & Paul, 1976). These two-sided messages are particularly successful in persuading intelligent consumers to buy a product or adopt a new way of thinking (Eisend, 2013). This is because negative information is potent and difficult to overlook (Martin, 2008). This research examined reply valence, particularly negative replies, and the effect these replies have on engagement and company response time.

In terms of engagement, neutral replies from users generated the most engagement followed by negative and positive replies. While neutral and negative were close in generating engagement, neutral replies consistently received the most retweets and favorites. This is perhaps because negative replies may turn ugly or argumentative and those outside the conversation may not feel comfortable assigning positivity in the form of retweets and favorites to the interaction. The negative reply is also most likely negative for that user alone. For instance, if a user is waiting in a long line at a pharmacy and complains on Twitter, other users around the world are not likely to retweet or favorite the tweet. Rather, neutral feedback that users share some commonality with most likely will receive retweets and favorites.

For company response time, negative replies received the fastest response on average followed by positive and then neutral replies. While neutral replies generate the most engagement, these replies lead to the slowest company response times. It is important to note that negativity does grab companies' attention and, as mentioned earlier, complaints did receive the fastest response time ahead of compliments, neutral feedback, and questions.

Complaints and negativity in this research showed a limited ability in generating engagement but a capacity to grab attention and influence company response times. This paragraph shifts focus from the user to the company while still examining negativity. Negative and non-negative company tweets generated a similar number of replies, but non-negative tweets generated more retweets and favorites than negative company tweets. While these results are not significant, it points to users celebrating positivity from companies. Negative tweets from companies generated less engagement.

Literature points to negativity being important in a way that elicits further discussion when concerning online communication (Chen & Lurie, 2013). Users seek out negativity to learn more about a product or service far more than positive reviews. Negativity also leads to perceived credibility in that full disclosure is appreciated by users (Sweetser, 2010). With that being said, negativity did not have the expected effect in this research. Negativity, from users or companies, did not generate more engagement in the form of replies, retweets, and favorites. In a sea of positivity, negativity on social media should grab attention and stand out, but the negativity in this research did not generate more engagement. The only negativity with significant results relates to complaints influencing the fastest response from companies. The results in this research point to negativity playing a lesser role than previously thought.

Company Type

An important component in this research is the distinction between B2Bs and B2Cs. B2Bs are lesser known and deal with other businesses, and B2Cs are more popular and conduct business directly with consumers. However, an essential detail is the fact that B2Cs adopted social media earlier and are more accustomed to interacting with users than B2Bs (Rapp et al., 2013). With this in mind, it is not surprising that B2Cs tweeted more, followed more users, and were followed by more users than B2Bs on average in this research. B2Cs are in business with people so it is no surprise that these companies tweet often and seek out users to both follow and to generate followers to elicit interaction.

On a per tweet basis, B2Cs generate more replies, retweets, and favorites than B2Bs. Again, with a larger and more motivated audience, B2Cs can be expected to generate more engagement with each tweet. But B2Bs are also to blame as these companies failed to embrace interactivity and displayed a lack of interest in tracking sales metrics (Reber & Fosdick, 2005). This essentially puts B2Bs behind B2Cs in terms of engagement and activity figures regarding social media and Twitter. Many B2Cs can generate Twitter engagement on reputation alone, but B2Bs, lesser known and selling products unavailable to the general public, do not have the reputation to support a social media campaign.

Research points to B2Cs also employing tactics designed to generate more engagement, such as incorporating visual elements. B2Cs tend to use more colors and vividness while B2Bs try not to clutter the message with excess distractions (Lohtia, Donthu & Hershberger, 2003), an important distinction in regard to social media. This research found that B2Cs used more photos than B2Bs when tweeting, demonstrating behavior seen before in literature.

Lastly, B2Bs and B2Cs responded to user replies differently. B2Cs responded nearly four times faster than B2Bs, further demonstrating that B2Cs value interaction with users more than B2Bs. As mentioned before, quick responses online are a sign of respect and even pauses have meaning. B2Bs are adopting social media and learning the norms (Steyn et al., 2010), but these companies have a long way to go to catch up with B2Cs when dealing with users online. However, reputation and company standing may also play a significant role that many B2Bs simply cannot overcome when competing with B2Cs.

Interaction Effects

This research introduced three primary variables: interactivity, reply valence, and company type. Now that those variables have been discussed at length, this section will explore the interaction effects among the three.

First, interactivity and company type displayed a significant interaction. Both B2Bs and B2Cs received an engagement boost when users interacted, with B2Cs generating far more replies, retweets, and favorites for all three levels: no replies, reactive, and interactive. Interestingly, the interactive level, or the company's response to the user's reply, received little engagement for B2Bs but high levels of engagement in the form of retweets and favorites for B2Cs. This points to company reputation and number of followers playing a role, as some users are prone to retweeting or favoriting anything from companies they hold in high esteem. But for B2Bs with fewer followers, not many Twitter users are exposed to the tweet thereby generating less engagement. For interactivity and company type, there were no significant results, despite B2Cs responding to users nearly four times faster than B2Bs.

Second, reply valence and company type did not have significant results but some interesting trends emerged. B2Cs generated more engagement across the board for positive, neutral, and negative replies than B2Bs. Again, neutral replies generated the most replies followed by negative and then positive replies for both B2Bs and B2Cs. Where it differs, however, is that neutral replies generated the most retweets and favorites for B2Bs followed by positive replies and then negative replies. B2Cs followed the neutral-negative-positive pattern for replies generating retweets, but deviated for favorites

in that negative replies generated the most favorites followed by neutral and then positive. The increase in positivity for B2Bs is likely because B2B companies are followed by suppliers, wholesalers, and buyers all along the sales chain. This speaks to B2B companies maintaining business connections, perhaps hoping that a retweet here or a favorite there keeps their business in the forefront of other businesses necessary for commerce to occur (Campbell et al., 2010). For B2Cs, negative replies may receive favorites as a form of encouragement from others who may have had their flight delayed or fast food order bungled. Still, neutral replies generated the most engagement overall.

The interaction between reply valence and company type affecting response time was not significant but some additional insights emerged. B2Cs responded quicker than B2Bs for positive, neutral, and negative replies. The fastest response was associated with B2Cs addressing a negative reply as this took just less than three hours on average. B2Cs took less than eight hours to address positive replies. In fact, B2Cs addressed negative, positive, and neutral replies quicker than the fastest average response for B2Bs. B2Bs addressed negative replies the fastest followed by positive and then neutral replies. This should not be surprising as consumers have migrated toward social media for customer service (Barnes, 2008), and it behooves B2Cs to address concerns quickly with the world watching. B2Bs, on the other hand, most likely will contact the company directly using traditional means to avoid public negativity and the burning of bridges that could impede future business. Some B2C consumers feel the only way to garner attention these days is to use Twitter as a megaphone to air complaints, and this research shows that B2Cs snap to attention faster when the reply is negative or a complaint.

Lastly, interactivity, reply valence, and company type did not display any three-way interaction effects when generating engagement in the form of replies, retweets, and favorites. Overall, B2Cs generated the most engagement, which seemed to activate between neutral and negative while B2Bs generated far less engagement, which tended to activate between neutral and positive. This supports the notion that B2Cs tend to use Twitter for customer service while B2Bs tend to use Twitter for networking and business building.

Practical Implications

The findings from this research are supported by enough data to provide valuable recommendations to companies and organization using Twitter today. This section will discuss what content and message strategy to include in a tweet to maximize engagement. Additionally, Twitter's purpose in terms of public relations, advertising, and customer service will be examined along with recommendations for B2Bs and B2Cs.

Twitter, along with all other forms of social media, is designed to establish connections and foster communication through reciprocal interaction. Sounds simple, but with billions of people using social media, it can be difficult to stand out from the crowd, which is essential for businesses competing for sales. Based on the results of this research, companies should avoid using hyperlinks when tweeting if the objective is to generate engagement. Twitter is a text-centric medium, but brevity is important to users scanning for snippets of information. Photos have the effect of boosting engagement in the form of replies, retweets, and favorites. Tweets within a feed all blend together, but photos grab attention. Because a fundamental aspect of Twitter is brevity, a picture does

have the ability to convey a thousand words within the 140-character constrictions. The trend analysis in this research demonstrated that the Fortune 500 has picked up on this as hyperlinks are being used less while photos are being used more often. Twitter is becoming more visual.

There is a limit to the interactivity functions, however. Twitter's @ mention should be used only when necessary because it will decrease engagement. Conversations that do not involve you are conversations you will avoid. The @ mention should only be used when the other party's full attention is absolutely necessary. As for the hashtag, failing to include one dooms the tweet to be viewed only by the company's followers and potentially a few others via retweets. One hashtag is better than none and two is better than one in most cases. However, three or more hashtags decreases engagement to levels on par with zero hashtags. This effect aligns with social media guides because too many hashtags clutters and distracts from the meaning of the tweet itself (Lee, 2014).

Moving beyond the content of the message, companies use Twitter for three primary purposes: public relations, advertising, and customer service. Literature points to users disliking overt advertising appearing on social media feeds (Lee & Youn, 2009), so brand management through public relations should be the primary purpose behind most company tweets. Specifically, tweeting a "Happy Halloween" on October 31, "Happy Holidays" in December, and "Good Luck Graduates" in May generates high levels of engagement and is appreciated by users. It is important for users to think of a company's Twitter account as a friendly human, and not a multibillion dollar corporation. These non-informational tweets reduce uncertainty between parties and potentially prime users to want to engage.

However, things are not always positive and consumers are using Twitter more and more often as a customer service forum. The difference here is that complaining on Twitter about long lines or bad food is visible for the world to see. While it may be difficult for a multibillion dollar Fortune 500 company to avoid small problems that cause complaints, it is not difficult to hire a social media team to address these complaints within minutes. Too many companies responded to users' complaints the next day. Research has shown that negativity is remembered by users, but studies have also found that rapid responses are a sign of respect and are held in high esteem. Airlines will suffer delays and will be inundated by complaints, but airlines in this study addressed complaints within minutes, supporting the notion that speedy responses are the most important tool a social media team has at its disposal.

Lastly, companies should assess the efficacy of a Twitter account in relation to its specific business operations. For B2Cs, a Twitter account is a direct line to consumers to informally crowdsource for ideas, address customer concerns, and to shape the image of the brand. B2Cs should include photos and visual elements to grab attention and avoid hyperlinks unless absolutely necessary. While many B2Cs are interacting and responding quickly, more can be done. B2C social media teams, and this should be a department every B2C adopts, need to stress dialogic interaction that reciprocates what users are tweeting. Essentially, users should feel like they are tweeting their friends when they are tweeting at companies. This research demonstrated that interactive tweets are still the rarest. B2Cs need to respond to users quickly because interaction and speed are held in high esteem online.

As for B2Bs, Twitter is less important. These companies need to assess whether tweeting about steel or farm products to a few hundred followers is a worthwhile endeavor. B2Bs do use Twitter to network with other businesses and this is worthwhile, but ordinary users probably will never engage with these companies. If a B2B does decide to tweet, the company needs to be interactive and interesting. Text-heavy earnings reports, while valuable, are not aligned with what Twitter is about. Visual elements resonate with users who then share the content with others. Similar to B2Cs, B2Bs need to interact in a timely manner. B2Bs will receive fewer complaints so there should not be an excuse for slow response times.

Corporate reputation plays a role in generating engagement as does company size. This research showed that as companies climb the rankings of the Fortune 500, engagement indicators can be expected to increase. But Twitter is a somewhat level playing field as every account is only allowed 140 characters or less. Still, every company should assess whether Twitter is worth the time and energy before tweeting.

Limitations and Future Research

Limitations

Some limitations will exist in any research project. This research's method combined a field experiment to collect tweets from the real world with a content analysis to make sense of those tweets. The field experiment method is optimal because it allows the companies to tweet naturally without the sense of being observed. Tweets were collected from 2009 to 2013, further adding to the validity of a major social media study. With that being said, the following paragraphs will discuss the limitations.

First, tweets were collected manually, meaning the company's Twitter account was accessed and a screenshot of the tweet was saved. However, Twitter hides tweets after a certain point. Companies that do not tweet often had all tweets visible, but companies that tweet several times each day sometimes had only a year or two of tweets visible. This limitation overly emphasizes companies that are not active on Twitter and underrepresents companies that tweet constantly. This is not a problem for results involving averages but potential interactions between active companies and users may not have been visible for data collection. Potentially, data collected for 2013 is more accurate than data collected for 2009 as fewer tweets were available then. Platforms or services that collect tweets automatically would be a viable remedy for this.

Second, the sampling procedure for user replies involved collecting the last two replies for each tweet. However, tweets with numerous replies sometimes get off topic. The first few replies directly address the company tweet, but the latter tweets may devolve into the usual Internet crazy talk. Also, some companies may address the first few replies and ignore the latter replies. This technique is probably the best option to manually collect data. Again, a platform or service that automatically collects all tweets and related replies would remedy this.

Lastly, social media changes overnight. The tweets in this sample run from 2009 to 2013. Including tweets from 2014 would yield a more accurate reading of how the Fortune 500 tweets on a day-to-day basis. Using tweets from 2014 would include more data, and with that, more interaction and engagement. User totals and tweeting statistics have steadily increased so using 2014 tweets would add valuable information to this research.

Future Research

As mentioned in the previous section, a future research direction for the near term is to include tweets from 2014. With the data collection and coding procedures proving reliable, a new year's worth of tweets should be added to the sample to keep this research current. Updating the data is a simple way to monitor how the Fortune 500 continues to use Twitter.

Much is made about hashtags in Twitter studies. This research examined if tweets had a hashtag or not and also counted the hashtags used. Content analyzing the hashtag itself would be interesting to see what words trigger engagement in the form of replies, retweets, and favorites. The length of the hashtags could be an important variable too. Every character is valuable in a tweet so it would be interesting to narrow down the proper range of characters for an effective hashtag.

In the same vein, hyperlinks could be clicked and followed to see what companies are linking to within tweets. Some hyperlinks have the destination within the link, but others use services to shorten the link to maximize the character space. The differences between B2B and B2C hyperlinks could be interesting along with the different levels of engagement in the form of replies, retweets, and favorites generated by the hyperlinks.

This research analyzes Fortune 500 Twitter use primarily from a public relations perspective. Another direction could be focusing on the business and sales generated from social media use. This would be difficult to examine but incorporating sales figures and stock prices into the analysis could provide a link between a company's social media presence and business value. Strategies could include using replies, retweets, and

favorites as variables along with buzzwords such as “sale”, “discount”, or “launch” to examine the effect on sales and stock price.

Lastly, this study only analyzed Fortune 500 Twitter use. Examining how the Fortune 500 uses Facebook, YouTube, and other social media platforms and comparing it to Twitter would be beneficial as most companies incorporate multiple platforms into a social media strategy. Differences would be apparent as Twitter’s 140-character limit, Facebook’s ubiquity, YouTube’s video capabilities, and so forth all provide unique opportunities for engagement.

Conclusion

With almost 10,000 Fortune 500 tweets and more than 1,500 replies taken from 2009 to 2013, this research has the foundation and results to provide significant value to social media and public relations literature. The content analysis involved examining each tweet for hyperlinks, visual elements, @ mentions, and hashtags in addition to negativity, purpose, and dialogic characteristics. Replies were coded for purpose, company response strategy, and company response time. With this data, some results aligned with previous research while others opposed established theories.

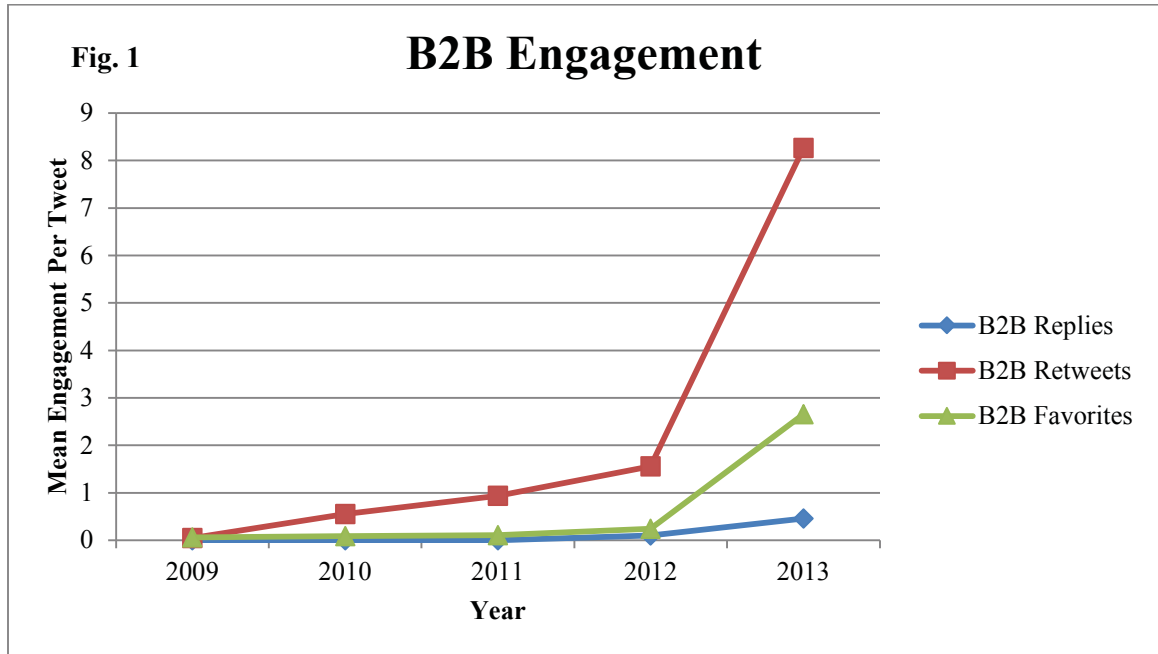
Interactivity was analyzed from both a functional and contingency perspective. Companies were eager to incorporate functional aspects such as photos and hashtags but were reticent to perform contingency interaction with users. About 2% of the tweets in this research could be characterized as fully two-way interactive or finished with a company response to a user’s reply.

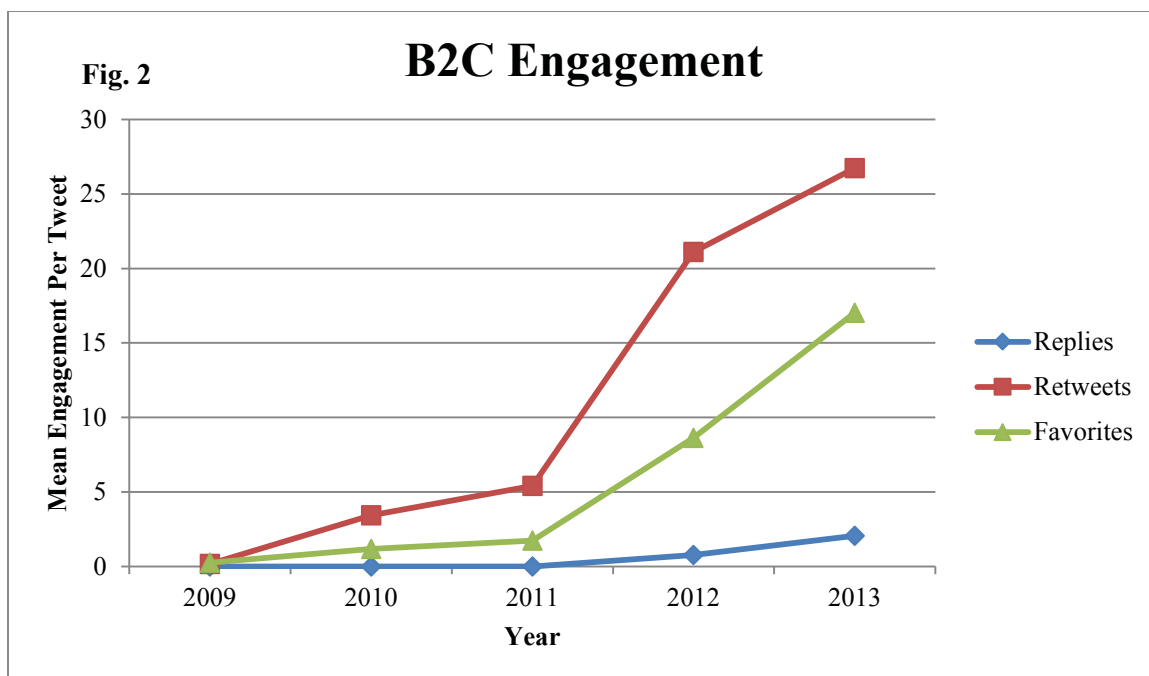
What did grab companies' attention, however, was negativity in the form of complaints. Complaints generated the fastest response time from companies leading to the conclusion that companies want to remedy users' problems quickly because the Twittersphere is watching. Neutral replies received the slowest company responses meaning replies should be at an extreme, be it positive or negative, to grab a company's attention.

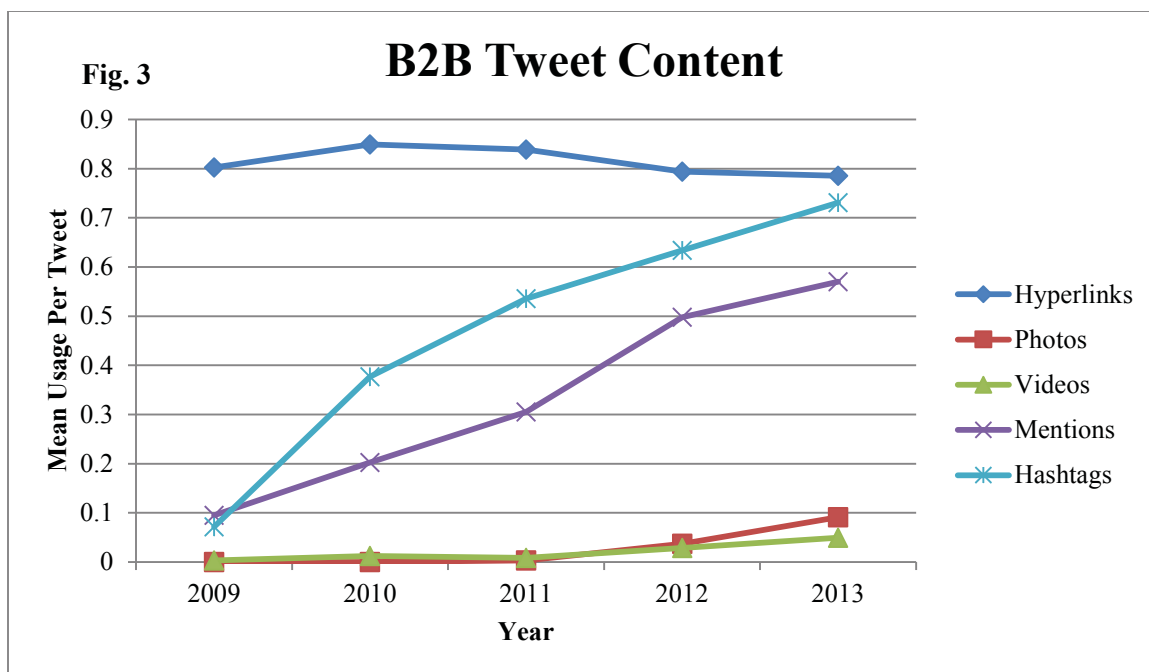
While Twitter is a platform that provides an equal opportunity for all to voice opinions 140 characters at a time, not all users receive the same amount of engagement. B2Cs tweet more, follow more users, and are followed by more users than B2Bs. On a per tweet basis, B2Cs generate more replies, retweets, and favorites than B2Bs. Companies need to assess if Twitter is the right platform to disseminate corporate messages.

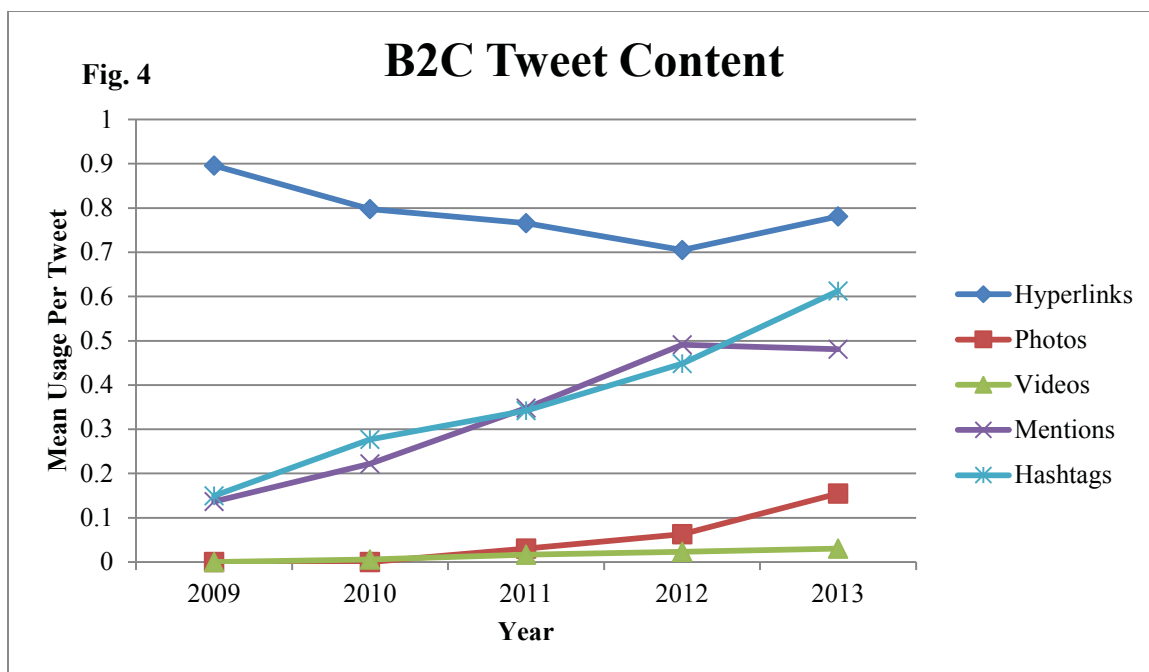
Twitter's creators did not know what the platform was for when it launched in 2006. Nine years and hundreds of millions of users later, Twitter has proven capable as a journalistic tool, a means to affect change in distressed parts of the world, a bridge between the famous and the ordinary, and a platform for companies to build reputation. With about 500 million users, companies have the audience to effectively build a brand, but at the same time, mistakes are magnified and shared around the world. With all those users each vying for a piece of Twitter real estate, it can be difficult to rise above the fray. However, consistent interaction and speedy responses will position even the smallest business in the highest esteem.

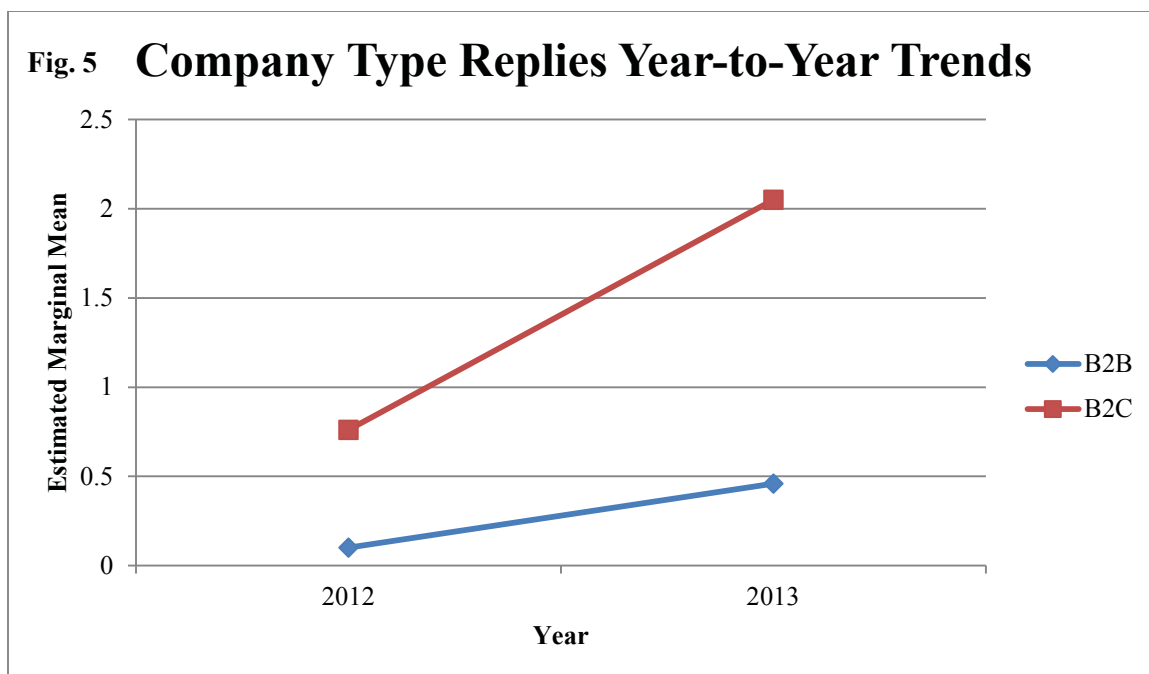
Figures

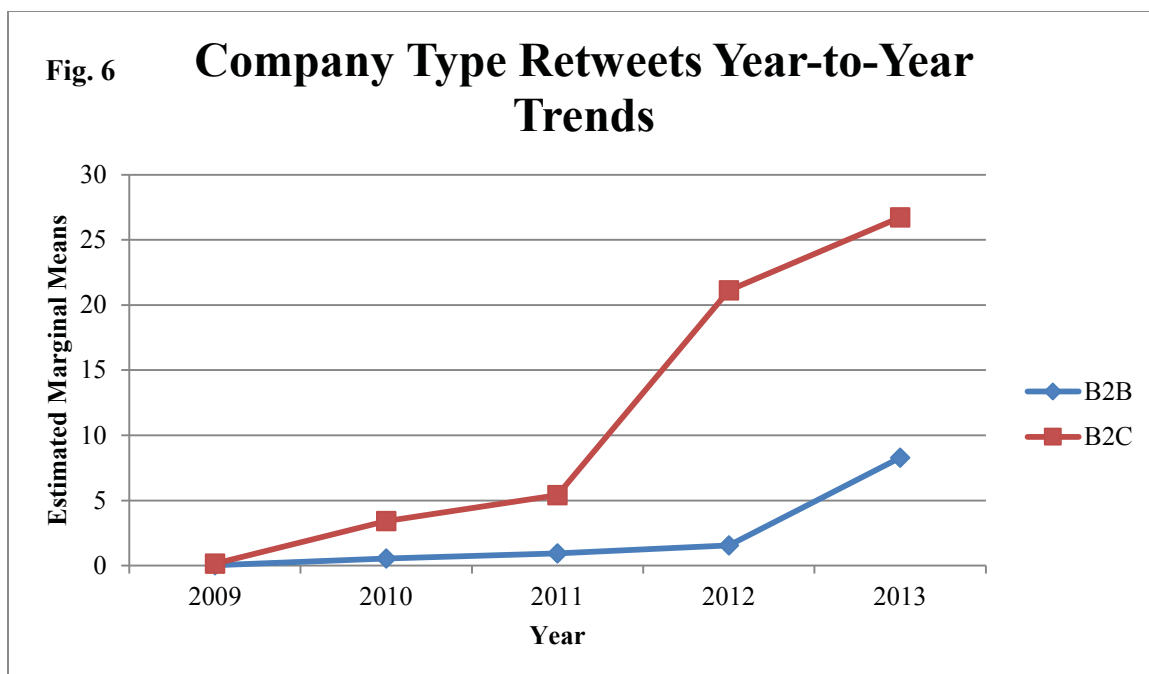


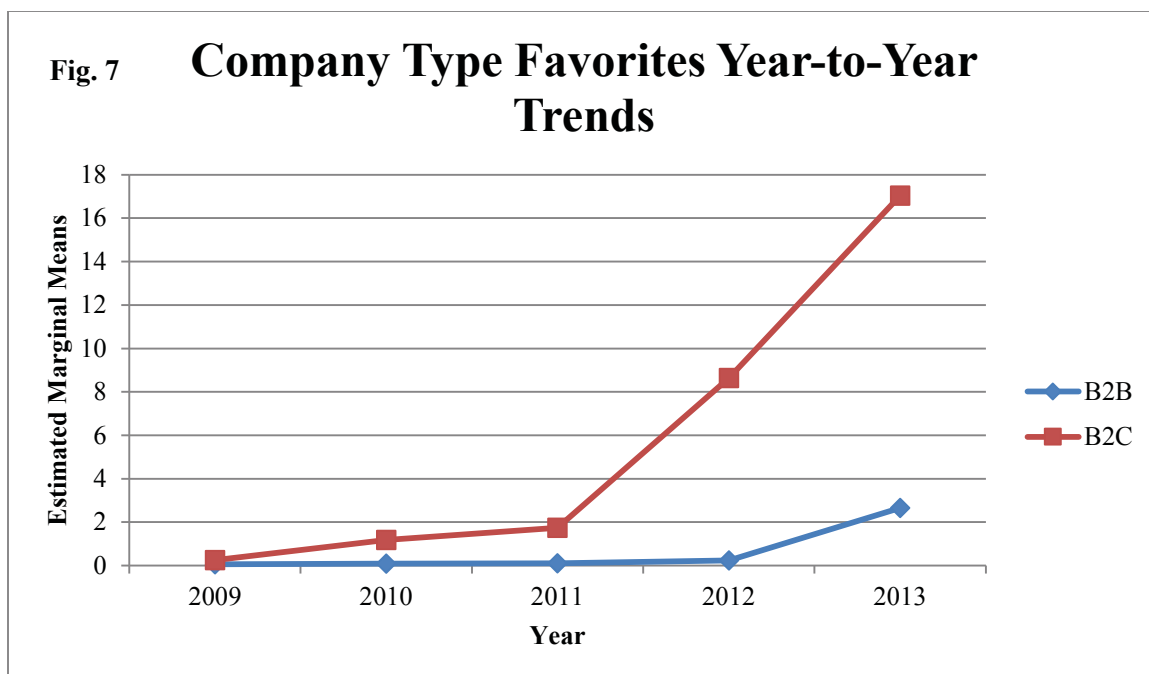


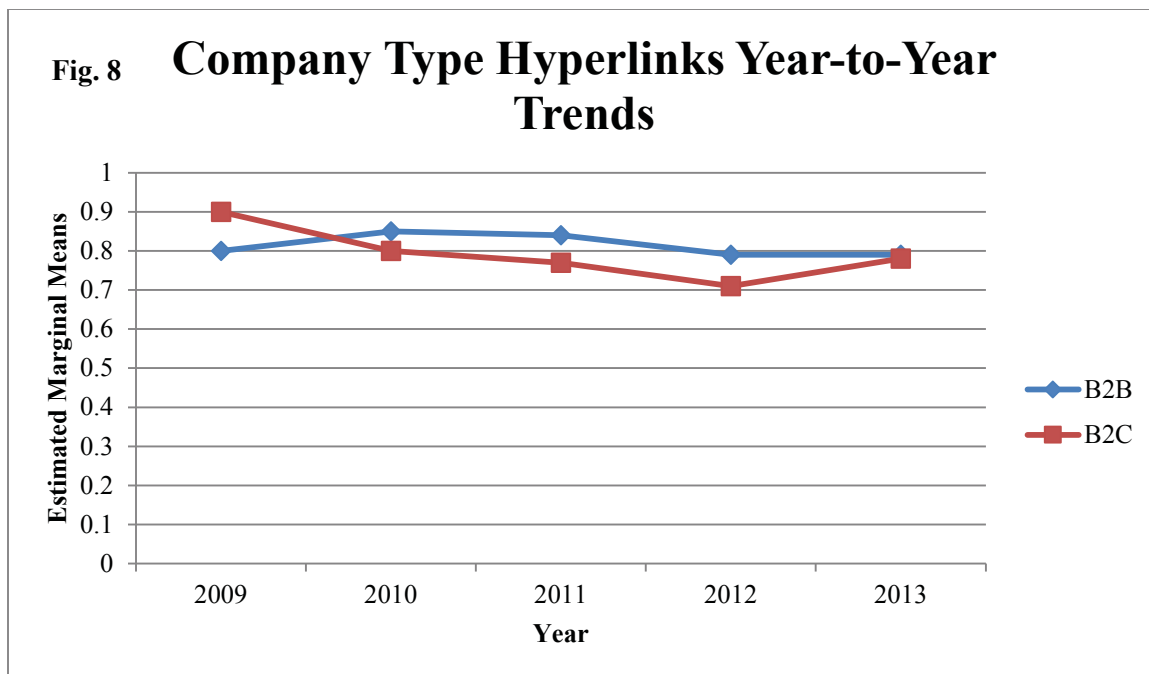


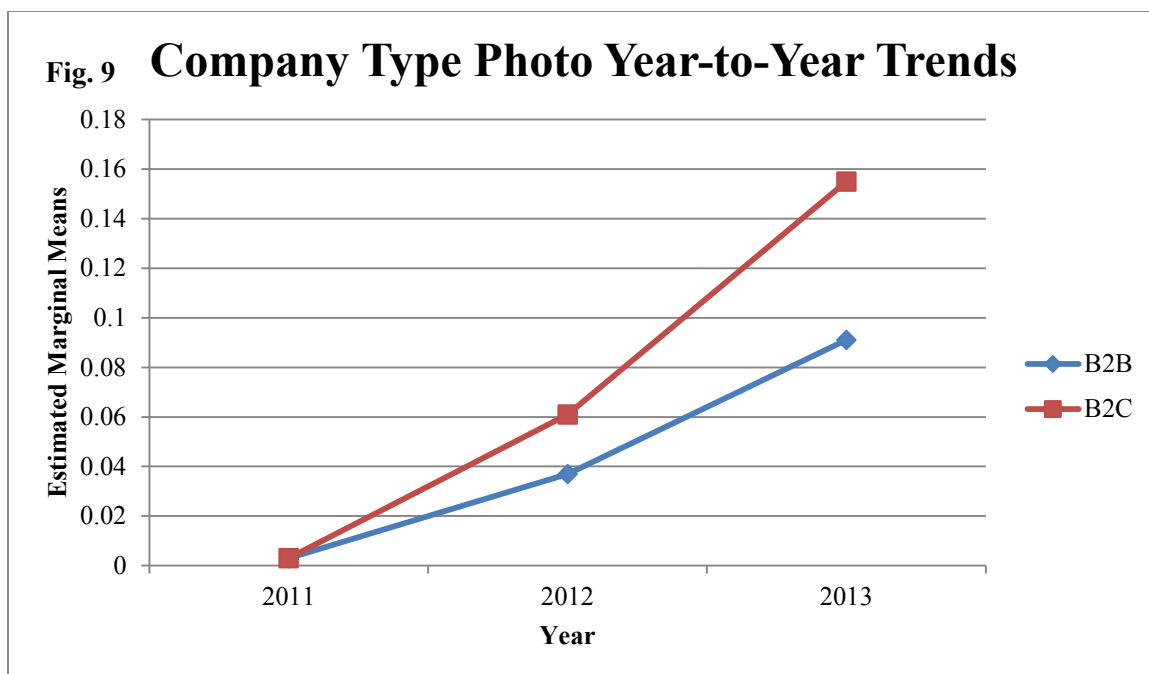


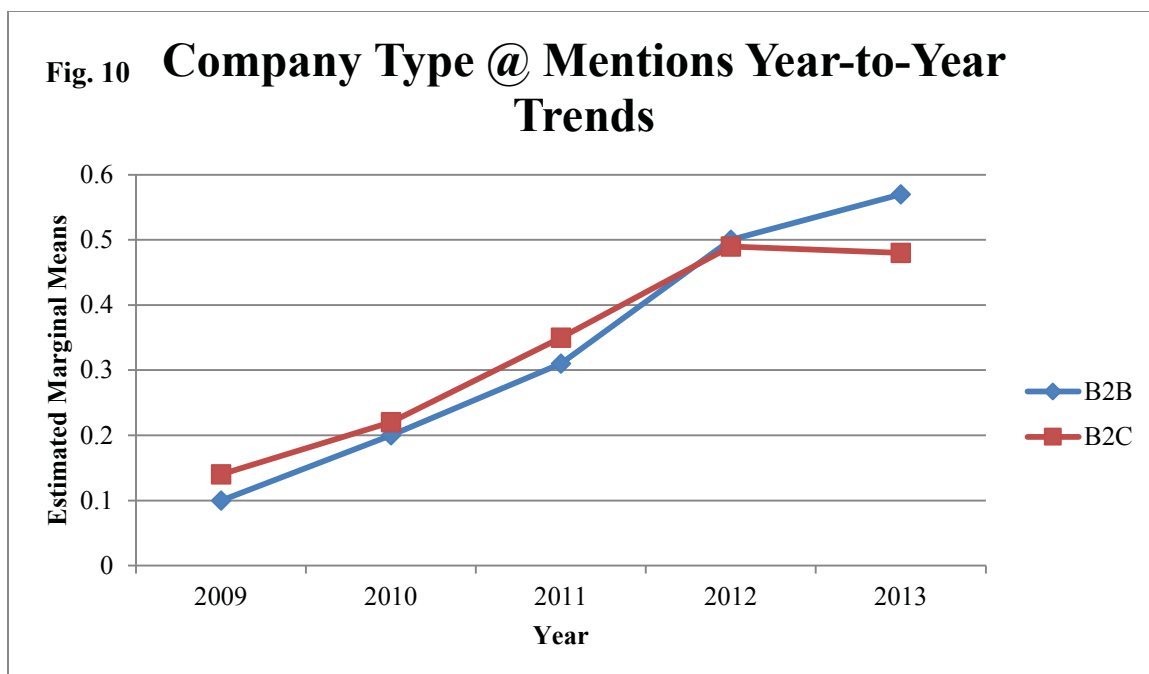


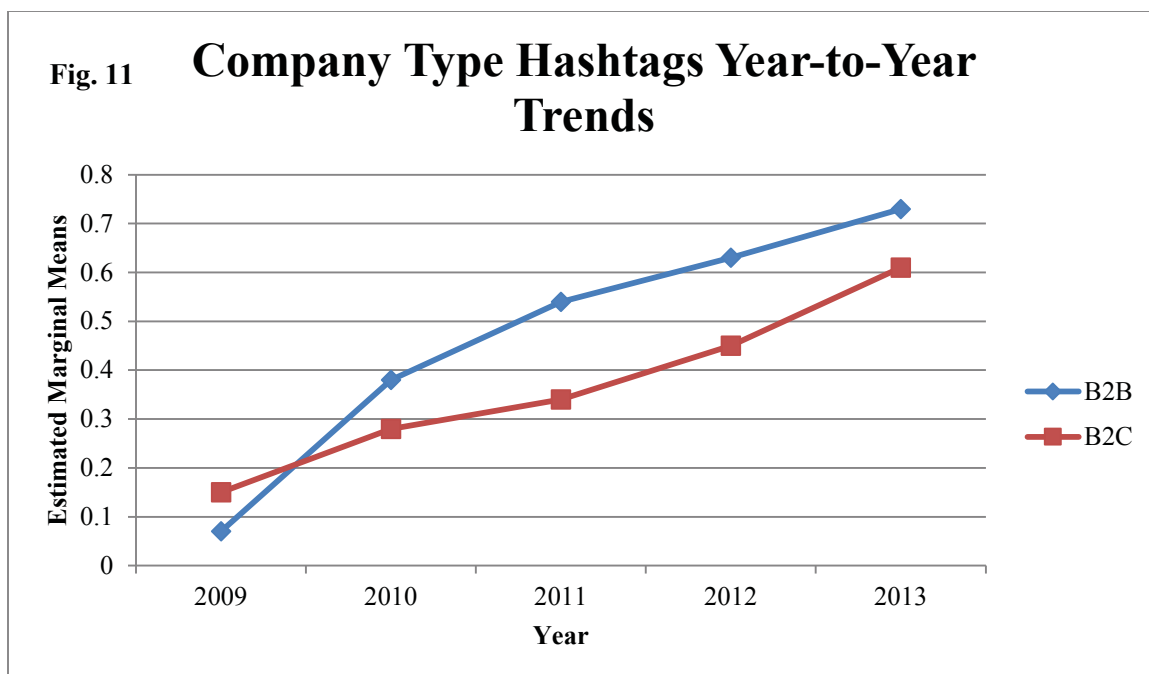


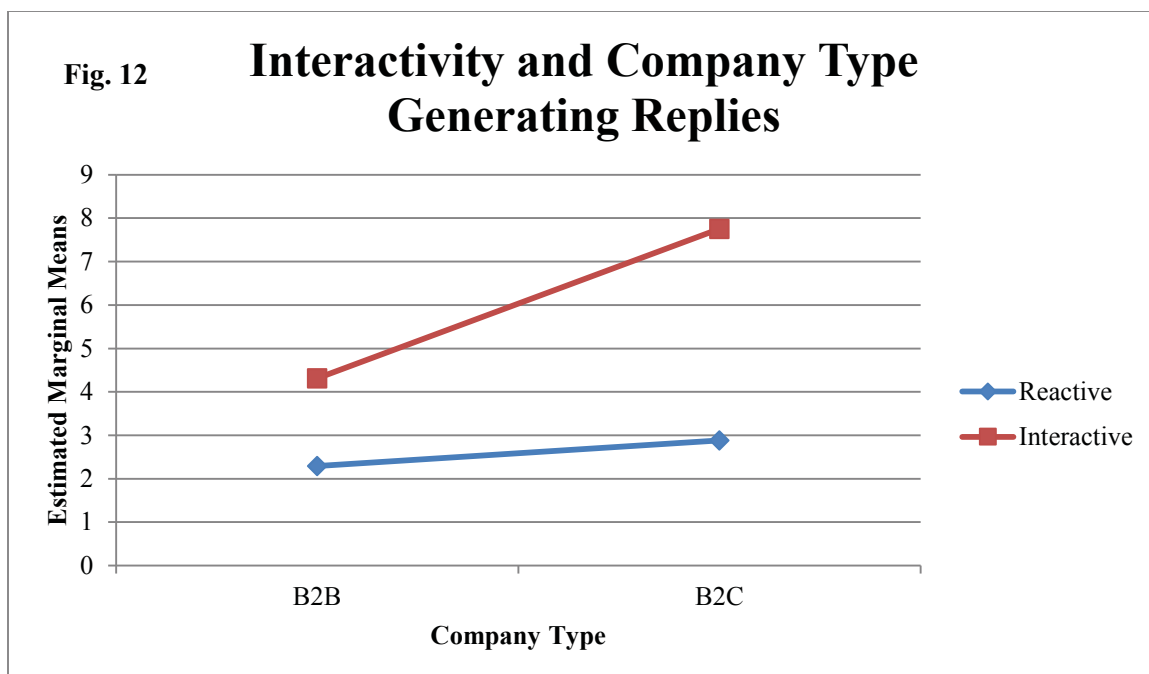


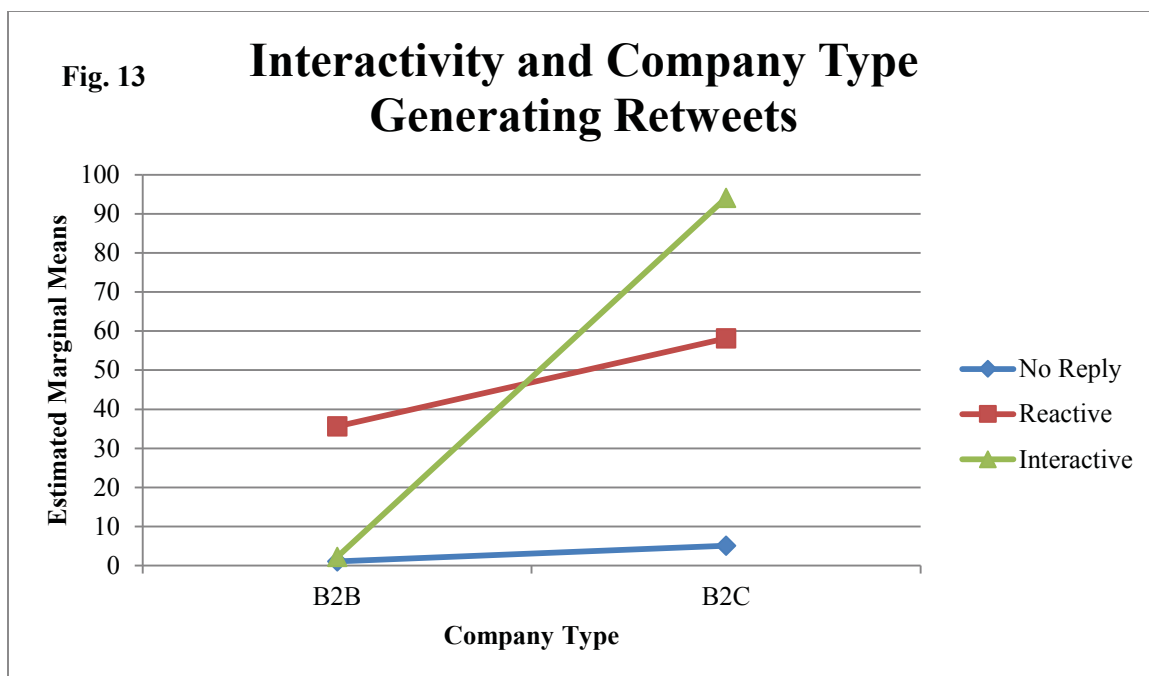


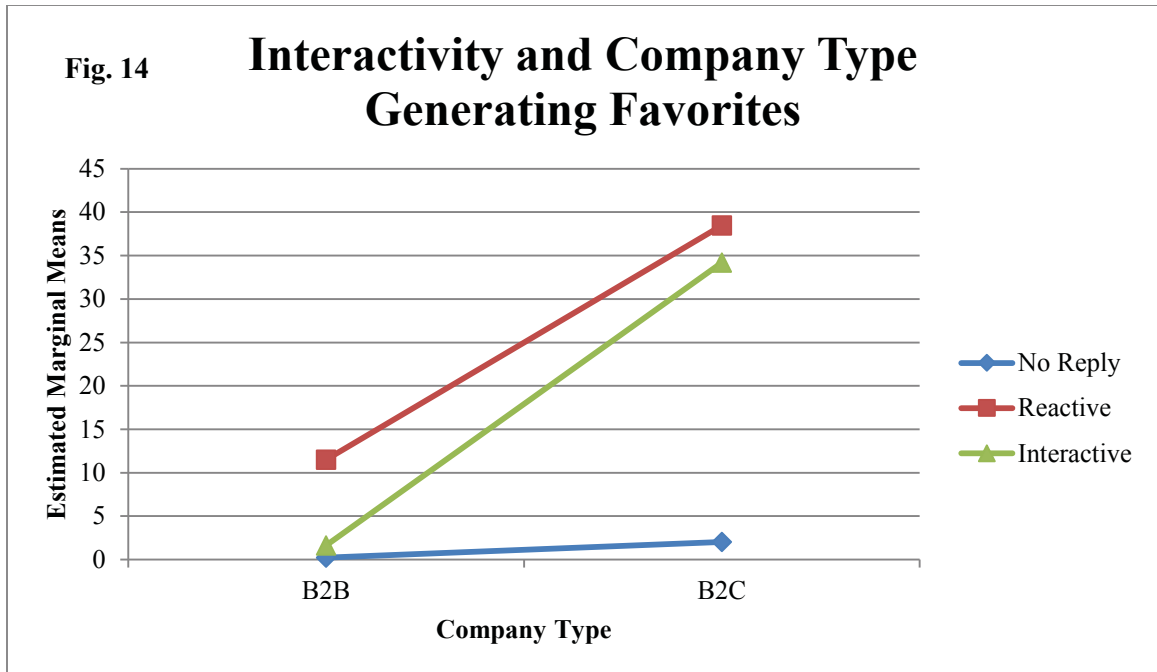












Tables

Table 1: *Summary of Hypotheses*

	Prediction	Conclusion
H1	Tweets with a hyperlink will generate more engagement in the form of replies, retweets, and favorites than tweets without a hyperlink.	Not supported
H2	Tweets with a photo will generate more engagement in the form of replies, retweets, and favorites than tweets without a photo.	Supported
H3	Tweets with a video will generate more engagement in the form of replies, retweets, and favorites than tweets without a video.	Not supported
H4	Tweets with an @ mention will generate more engagement in the form of replies, retweets, and favorites than tweets without an @ mention.	Not Supported
H5	Tweets with a hashtag will generate more engagement in the form of replies, retweets, and favorites than tweets without a hashtag.	Supported
H6	Companies responding to a user's question will do so faster than any other tweet purpose posed by a user.	Not supported
H7	Companies will use a public relations strategy when tweeting more often than an advertising strategy.	Supported
H8	Negative replies will generate the most engagement in the form of replies, retweets, and favorites than positive or neutral replies.	Not supported
H9	Negative replies will receive a faster company response than positive or neutral replies.	Not supported
H10	Company tweets coded as negative will generate more replies, retweets, and favorites than company tweets coded as positive.	Not supported
H11	On average, B2C companies will include more visual elements (photos and videos) within tweets than B2B companies.	Partially supported
H12	On average, B2C companies will tweet more than B2B companies.	Supported
H13	On average, B2C companies will follow more users than B2B companies.	Supported
H14	On average, B2C companies will have more followers on Twitter than B2B companies.	Supported
H15	On average, B2C tweets will generate more replies, retweets, and favorites than B2B tweets.	Supported
H16	On average, B2Cs will respond faster to user replies than B2Bs.	Supported
H17	Interactivity and company type will significantly interact when generating engagement in the form of replies, retweets, and favorites.	Supported
H18	Interactivity and company type will significantly interact when generating company response time.	Not supported
H19	Reply valence and company type will significantly interact when generating engagement in the form of replies, retweets, and favorites.	Not supported
H20	Reply valence and company type will significantly interact when generating company response time.	Not supported

Table 2: *Summary of Research Questions*

	Question	Answer
RQ1	What are the year-to-year trends of Fortune 500 Twitter use from 2009 to 2013?	Replies, retweets, and favorites have increased from 2009 to 2013 for B2Bs and B2Cs. Photos, videos, mentions, and hashtags have increased but hyperlinks have decreased from 2009 to 2013.
RQ2	Is there a relationship between Fortune 500 ranking and engagement in the form of replies, retweets, and favorites?	Yes. The closer a company moves to #1, the more replies and retweets can be expected. Favorites also increased but this was not significant.
RQ3	Can using too many interactive functions decrease engagement?	Yes. Including a hyperlink or @ mention decreases engagement. Using three or more hashtags will also decrease engagement.
RQ4	Does company response time to user tweets have the ability to generate engagement in the form of replies, retweets, and favorites?	No. Company response time affecting engagement was not significant.
RQ5	What tweet purpose used by the Fortune 500 generates the most engagement in the form of replies, retweets, and favorites?	Non-informational. This generated the most engagement in the form of replies, retweets, and favorites.
RQ6	Are there three-way interaction effects among interactivity, message valence, and company type on a tweet's communication effects, measured in its number of replies, retweets, and favorites?	No. The three-way interaction effects are not significant in generating replies, retweets, or favorites.

Table 3: *Overview of Fortune 500 Tweet Purpose*

Tweet Purpose	Percentage	N
Public Relations	57.2	5,437
Pure Information	21.1	2,015
Customer Service	7.2	685
Sales and Promotion	5.8	552
Non-informational	5.6	532
Job Recruiting	3.0	286
Total	100	9,507

Table 4: *User Reply Purpose*

Reply Purpose	Percentage	N
Neutral Feedback / Opinion	40.2	618
Compliments	32.5	500
Complaints	14.2	219
Questions	9.5	146
Self-Promotion	3.6	55
Total	100	1,538

Table 5: *Interactivity of Tweets*

Interactivity	Percentage	N
No Replies	83.9	8,011
Reactive	14.0	1,337
Interactive	2.1	198
Total	100	9,546

Table 6: *User Reply Valence*

Reply Valence	Percentage	N
Neutral	53.3	819
Positive	32.5	500
Negative	14.2	219
Total	100	1,538

Table 7: *Verified and Unverified Twitter Activity*

	Verified			
	M	SD	t(419)	p
Tweets	16,261.64	41,117.59	5.43	.000
Following	8,835.11	42,313.16	2.9	.004
Followers	437,343.9	1,379,186.6	4.83	.000
	Unverified			
	M	SD	t(419)	p
Tweets	1,836.5	2,242.14	5.43	.000
Following	895.11	2,608.67	2.9	.004
Followers	7,659.77	14,948.21	4.83	.000

Table 8: *Verified and Unverified Twitter Engagement*

	Verified			
	M	SD	t(9548)	p
Replies	2.41	5.06	-36.25	.000
Retweets	45.78	195.8	-19.58	.000
Favorites	24.68	99.8	-21.05	.000
	Unverified			
	M	SD	t(419)	p
Replies	.17	.89	-36.25	.000
Retweets	1.14	3.48	-19.58	.000
Favorites	.23	.73	-21.05	.000

Table 9: *Verified and Unverified Company Response Time in Minutes*

	Verified			
	M	SD	t(9548)	p
Response Time	718.34	2,867.6	2.77	.006
	Unverified			
	M	SD	t(419)	p
Response Time	2,529.49	6,237.56	2.77	.006

Table 10: *Year and Company Type Generating Replies*

B2B				
	M	SD	F(4, 9540)	p
2012	.10	.50		
			41.11	.000
2013	.46	1.66		
B2C				
	M	SD	F(4, 9540)	p
2012	.76	2.99		
			41.11	.000
2013	2.05	4.62		

Table 11: *Year and Company Type Generating Retweets*

B2B				
	M	SD	F(4, 9540)	p
2009	.04	.22		
2010	.55	1.49		
2011	.94	1.77	3.41	.009
2012	1.56	4.58		
2013	8.27	107.87		
B2C				
	M	SD	F(4, 9540)	p
2009	.16	.79		
2010	3.43	29.25		
2011	5.41	34.39	3.41	.009
2012	21.12	127.71		
2013	26.73	140.60		

Table 12: *Year and Company Type Generating Favorites*

B2B				
	M	SD	F(4, 9540)	p
2009	.06	.25		
2010	.09	.30		
2011	.11	.39	7.79	.000
2012	.24	.98		
2013	2.66	28.95		
B2C				
	M	SD	F(4, 9540)	p
2009	.25	1.94		
2010	1.18	12.51		
2011	1.74	13.49	7.79	.000
2012	8.64	56.74		
2013	17.04	86.35		

Table 13: *Year and Company Type and Hyperlink Usage per Tweet*

B2B				
	M	SD	F(4, 9540)	p
2009	.80	.42		
2010	.85	.38		
2011	.84	.40	6.18	.000
2012	.79	.43		
2013	.79	.44		
B2C				
	M	SD	F(4, 9540)	p
2009	.90	.31		
2010	.80	.41		
2011	.77	.44	6.18	.000
2012	.71	.49		
2013	.78	.49		

Table 14: *Year and Company Type and Photo Usage per Tweet*

B2B				
	M	SD	F(4, 9540)	p
2011	.003	.06		
2012	.037	.19	6.94	.000
2013	.091	.30		
B2C				
	M	SD	F(4, 9540)	p
2011	.003	.06		
2012	.061	.25	6.94	.000
2013	.155	.37		

Table 15: *Year and Company Type and @ Mention Usage per Tweet*

B2B				
	M	SD	F(4, 9540)	p
2009	.10	.33		
2010	.20	.53		
2011	.31	.63	2.66	.031
2012	.50	.91		
2013	.57	.90		
B2C				
	M	SD	F(4, 9540)	p
2009	.14	.43		
2010	.22	.71		
2011	.35	.61	2.66	.031
2012	.49	.95		
2013	.48	.84		

Table 16: *Year and Company Type and Hashtag Usage per Tweet*

B2B				
	M	SD	F(4, 9540)	p
2009	.07	.35		
2010	.38	.83		
2011	.54	.99	2.51	.04
2012	.63	.99		
2013	.73	.99		
B2C				
	M	SD	F(4, 9540)	p
2009	.15	.50		
2010	.28	.77		
2011	.34	.74	2.51	.04
2012	.45	.92		
2013	.61	.83		

Table 17: *Correlation Between Fortune 500 Ranking and Engagement*

	Replies	Retweets	Favorites
Fortune 500 Ranking	-.102**	-.044**	-.016
	.000	.000	.128

**p < .01

Table 18: *Hyperlink Presence Generating Engagement*

No Hyperlinks				
	M	SD	t(9548)	p
Replies	.9394	3.1727	5.224	.000
Retweets	20.2787	163.9298	5.056	.000
Favorites	7.7181	56.4520	2.126	.034
Hyperlinks Present				
	M	SD	t(419)	p
Replies	.5965	2.5407	5.224	.000
Retweets	8.5877	60.9657	5.056	.000
Favorites	5.2038	46.0526	2.126	.034

Table 19: *Photo Presence Generating Engagement*

No Photos				
	M	SD	t(9548)	p
Replies	.6102	2.639	-8.926	.000
Retweets	10.0643	91.8289	-4.697	.000
Favorites	4.6083	39.9797	-8.930	.000
Photos Present				
	M	SD	t(419)	p
Replies	1.6029	3.3444	-8.926	.000
Retweets	28.5199	133.2341	-4.697	.000
Favorites	22.4848	114.1186	-8.930	.000

Table 20: @ Mention Presence Generating Engagement

No @ Mentions				
	M	SD	t(9548)	p
Replies	.7352	2.9585	3.184	.001
Retweets	13.3906	107.5659	3.198	.001
Favorites	6.3242	48.5819	1.604	.109
@ Mentions Present				
	M	SD	t(419)	p
Replies	.5458	2.0354	3.184	.001
Retweets	6.6904	59.9861	3.198	.001
Favorites	4.6062	48.7832	1.604	.109

Table 21: *Number of Hashtags Generating Engagement*

No Hashtags				
	M	SD	F(3, 9549)	p
Replies	.55	2.47	18.28	.000
Retweets	9.79	91.61	2.39	.066
Favorites	4.76	42.54	3.02	.028
One Hashtag				
	M	SD	F(3, 9549)	p
Replies	.99	3.04	18.28	.000
Retweets	15.33	110.39	2.39	.066
Favorites	7.02	42.75	3.02	.028
Two Hashtags				
	M	SD	F(3, 9549)	p
Replies	.90	3.60	18.28	.000
Retweets	13.69	91.47	2.39	.066
Favorites	9.46	77.98	3.02	.028
Three of More Hashtags				
	M	SD	F(3, 9549)	p
Replies	.34	1.40	18.28	.000
Retweets	5.97	49.82	2.39	.066
Favorites	7.41	84.17	3.02	.028

Table 22: *Reply Purpose Affecting Response Time in Minutes*

	Compliment			
	M	SD	F(2, 9537)	p
Response Time	606.8	1428.1	2.75	.044
	Complaint			
	M	SD	F(2, 9537)	p
Response Time	540.7	978.1	2.75	.044
	Questions			
	M	SD	F(2, 9537)	p
Response Time	2638.8	7574.1	2.75	.044
	Feedback/Opinion			
	M	SD	F(2, 9537)	p
Response Time	1003.9	2657.5	2.75	.044

Table 23: *Advertising and Public Relations Tweet Purposes Compared*

	M	SD	t(1, 8974)	p
Advertising	.0615	.2402		
Public Relations	.6058	.4887	-84.646	.000
Pair	-.5443	.6091		

Table 24: *Tweet Purpose Generating Replies*

	Pure Info			
	M	SD	F(5, 9506)	p
Replies	.39	1.8	75.4	.000
	Public Relations			
	M	SD	F(5, 9506)	p
Replies	.6	2.2	75.4	.000
	Sales/Promotion			
	M	SD	F(5, 9506)	p
Replies	1.9	4.2	75.4	.000
	Customer Service			
	M	SD	F(5, 9506)	p
Replies	.5	2.5	75.4	.000
	Job Recruiting			
	M	SD	F(5, 9506)	p
Replies	.02	.2	75.4	.000
	Non-informational			
	M	SD	F(5, 9506)	p
Replies	2.3	5.4	75.4	.000

Table 25: *Tweet Purpose Generating Retweets*

	Pure Info			
	M	SD	F(5, 9506)	p
Retweets	7.2	99.2	33.85	.000
	Public Relations			
	M	SD	F(5, 9506)	p
Retweets	9.6	71.5	33.85	.000
	Sales/Promotion			
	M	SD	F(5, 9506)	p
Retweets	13.9	51.6	33.85	.000
	Customer Service			
	M	SD	F(5, 9506)	p
Retweets	.6	5.0	33.85	.000
	Job Recruiting			
	M	SD	F(5, 9506)	p
Retweets	.4	1.3	33.85	.000
	Non-informational			
	M	SD	F(5, 9506)	p
Retweets	61.7	260.3	33.85	.000

Table 26: *Tweet Purpose Generating Favorites*

	Pure Info			
	M	SD	F(5, 9506)	p
Favorites	2.9	36.7	25.83	.000
	Public Relations			
	M	SD	F(5, 9506)	p
Favorites	5.5	46.2	25.83	.000
	Sales/Promotion			
	M	SD	F(5, 9506)	p
Favorites	8.5	49.1	25.83	.000
	Customer Service			
	M	SD	F(5, 9506)	p
Favorites	.2	1.3	25.83	.000
	Job Recruiting			
	M	SD	F(5, 9506)	p
Favorites	.04	.2	25.83	.000
	Non-informational			
	M	SD	F(5, 9506)	p
Favorites	111.8	4.8	25.83	.000

Table 27: *Reply Valence Generating Engagement*

	Positive			
	M	SD	F(2, 1537)	p
Replies	3.69	5.01	2.69	.068
Retweets	28.36	99.91	6.84	.001
Favorites	15.39	59.42	6.9	.001
	Neutral			
	M	SD	F(2, 1537)	p
Replies	4.41	5.77	2.69	.068
Retweets	73.82	281.3	6.84	.001
Favorites	38.37	134.25	6.9	.001
	Negative			
	M	SD	F(2, 1537)	p
Replies	4.29	5.82	2.69	.068
Retweets	47.38	136.5	6.84	.001
Favorites	37.0	114.52	6.9	.001

Table 28: *Reply Valence and Company Type Affecting Response Time in Minutes*

	B2B			
	M	SD	F(4, 9540)	p
Positive	1375.31	2632.66		
Neutral	5403.87	11565.23	2.59	.078
Negative	1183.83	1329.12		
	B2C			
	M	SD	F(4, 9540)	p
Positive	464.13	1042.3		
Neutral	1082.14	3198.61	2.59	.078
Negative	154.8	414.43		

Table 29: *Tweet Valence Generating Engagement*

	Non-Negative			
	M	SD	t(9548)	p
Replies	.68	2.72	-.183	.855
Retweets	11.36	96.0	.436	.663
Favorites	5.84	49.0	.623	.534
	Negative			
	M	SD	t(9548)	p
Replies	.71	2.03	-.183	.855
Retweets	8.68	60.67	.436	.663
Favorites	3.89	32.73	.623	.534

Table 30: *Tweets with a Photo by Company Type*

	B2B	B2C	X²	Sig.
No Photos Present	4743	4180		
	9.4	-9.4	89.253	.000
Photos Present	211	416		
	-9.4	9.4		

Table 31: *Twitter Activity by Company Type*

	M	B2B SD	t(419)	p
Tweets	2573.61	3146.53	-3.74	.000
Following	951.82	1680.08	-2.26	.024
Followers	31908.25	190978.45	-3.29	.001
	M	B2C SD	t(419)	p
Tweets	12620.02	37143.54	-3.74	.000
Following	7123.28	37806.48	-2.26	.024
Followers	326948.50	1230879.22	-3.29	.001

Table 32: *Per Tweet Engagement by Company Type*

	B2B			
	M	SD	t(9548)	p
Replies	.1936	1.0517	-18.403	.000
Retweets	3.6494	65.0957	-8.156	.000
Favorites	1.0620	17.4847	-9.893	.000
	B2C			
	M	SD	t(9548)	p
Replies	1.1947	3.6700	-18.403	.000
Retweets	19.4967	118.8998	-8.156	.000
Favorites	10.8697	67.3723	-9.893	.000

Table 33: *Response Time by Company Type*

	M	B2B SD	F(1, 196)	p
Response Time	3118.823	7986.485	10.057	.002
	M	B2C SD	F(1, 196)	p
Response Time	761.811	2406.786	10.057	.002

Table 34: *Interactivity and Company Type Generating Replies***B2B**

	Reactive		Interactive		F(2, 9537)	p
	M	SD	M	SD		
Replies	2.29	3.02	2.88	1.34	167.53	.000

B2C

	Reactive		Interactive		F(2, 9537)	p
	M	SD	M	SD		
Replies	4.31	5.53	7.75	8.13	167.53	.000

Table 35: *Interactivity and Company Type Generating Retweets*

	B2B						F(2, 9537)	p
	No Reply		Reactive		Interactive			
	M	SD	M	SD	M	SD		
Retweets	1.1	2.28	35.66	237.66	2.23	3.52	16.38	.000

	B2C						F(2, 9537)	p
	No Reply		Reactive		Interactive			
	M	SD	M	SD	M	SD		
Retweets	5.12	49.62	58.12	175.84	94.05	378.47	16.38	.000

Table 36: *Interactivity and Company Type Generating Favorites*

	B2B						F(2, 9537)	p
	No Reply		Reactive		Interactive			
	M	SD	M	SD	M	SD		
Favorites	.22	.74	11.49	63.48	1.62	7.51	38.07	.000

	B2C						F(2, 9537)	p
	No Reply		Reactive		Interactive			
	M	SD	M	SD	M	SD		
Favorites	2.02	23.54	38.45	125.22	34.19	126.71	38.07	.000

Table 37: *Reply Valence and Company Type Generating Replies*

	B2B						F(2, 9537)	p
	Positive		Neutral		Negative			
	M	SD	M	SD	M	SD		
Replies	2.01	2.5	2.59	3.28	2.37	2.47	.01	.99

	B2C						F(2, 9537)	p
	No Reply		Reactive		Interactive			
	M	SD	M	SD	M	SD		
Replies	4.42	5.62	4.99	6.25	4.89	6.41	.01	.99

Table 38: *Reply Valence and Company Type Generating Retweets*

	B2B						F(2, 9537)	p
	Positive		Neutral		Negative			
	M	SD	M	SD	M	SD		
Retweets	9.71	39.77	57.81	321.1	5.69	15.2	.37	.691

	B2C						F(2, 9537)	p
	No Reply		Reactive		Interactive			
	M	SD	M	SD	M	SD		
Retweets	36.44	115.83	78.85	267.66	60.36	153.9	.37	.691

Table 39: *Reply Valence and Company Type Generating Favorites*

	B2B						F(2, 9537)	p
	Positive		Neutral		Negative			
	M	SD	M	SD	M	SD		
Favorites	4.68	19.17	17.41	84.58	2.46	8.67	1.08	.339

	B2C						F(2, 9537)	p
	No Reply		Reactive		Interactive			
	M	SD	M	SD	M	SD		
Favorites	20.03	69.52	44.97	145.86	47.77	129.2 7	1.08	.339

Table 40: *Reply Valence and Company Type Affecting Response Time in Minutes*

	B2B						F(2, 9537)	p
	Positive		Neutral		Negative			
	M	SD	M	SD	M	SD		
Response Time	1375	2632	5403	11565	1183	1329	2.59	.078

	B2C						F(2, 9537)	p
	No Reply		Reactive		Interactive			
	M	SD	M	SD	M	SD		
Response Time	464	1042	1082	3198	154	414	2.59	.078

Table 41: Reply Valence, Interactivity and Company Type Generating Replies																
B2B																
Positive			Neutral			Negative										
Replies	Re.		Int.		Re.		Int.		Re.		Int.					
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD				
Replies	1.91	2.55	3.15	1.68	2.59	3.4	2.6	1.18	2.28	2.6	3.0	.89	F(2, 9537)	.844	P	.43
B2C																
Positive			Neutral			Negative										
Replies	Re.		Int.		Re.		Int.		Re.		Int.					
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD				
Replies	3.8	5.25	6.89	6.36	4.51	5.7	8.0	8.4	4.5	5.4	11.4	14.6	F(2, 9537)	.844	P	.43

Table 42: Reply Valence, Interactivity and Company Type Generating Retweets

B2B														
	Positive			Neutral			Negative							
	Re.		Int.	Re.		Int.	Re.		Int.					
	M	SD	M	SD	M	SD	M	SD	M			SD		
Retweets	10.4	41.5	2.2	4.9	62.4	333.8	2.6	2.7	6.3	16.1	1.3	1.5	F(2, 9537)	p
													1.1	.332
B2C														
	Positive			Neutral			Negative							
	Re.		Int.	Re.		Int.	Re.		Int.					
	M	SD	M	SD	M	SD	M	SD	M			SD		
Retweets	34.9	120.8	42.3	94.1	68.7	201.8	143.9	517.6	63.0	158.4	37.1	91.6	F(2, 9537)	p
													1.1	.332

Table 43: Reply Valence, Interactivity and Company Type Generating Favorites														
B2B														
	Positive			Neutral			Negative			F(2, 9537)	P			
	Re.		Int.	Re.		Int.	Re.		Int.					
	M	SD	M	SD	M	SD	M	SD	M			SD		
Favorites	4.8	19.7	3.5	12.2	18.8	87.9	.53	.74	2.7	9.2	.3	.52	.266	.766
B2C														
	Positive			Neutral			Negative			F(2, 9537)	P			
	Re.		Int.	Re.		Int.	Re.		Int.					
	M	SD	M	SD	M	SD	M	SD	M			SD		
Favorites	21.2	76.3	15.4	30.3	44.1	141.6	50.3	171.4	49.8	132.7	30.8	87.9	.266	.766

Appendix

Company Interactivity on Twitter

1. Company Tweet

2. User Reply

Reactive

3. Company Reply to User's Reply

Interactive

Example of Company Interaction

Company Tweet



User Reply with Company Reply to User's Reply



Coding Sheet

Tweets:

Company name _____ Tweet number _____

Q1) Number of hyperlinks _____

Q2) Number of photos _____ **Q3)** Number of videos _____

Q4) Number of @ mentions _____ **Q5)** Number of hashtags _____

Q6) Subject of tweet: 1) Non-negative 2) Negative

Q7) Primary purpose of tweet:

- 1) Pure information (with no clear PR purpose) (*no company or product is mentioned)
- 2) Information with clear PR purpose (e.g., corporate news) (company is mentioned, focusing on company image)
- 3) Sales/Promotion information with advertising purpose (product is mentioned, clearly suggesting people to buy)
- 4) Customer service
- 5) Job recruiting
- 6) Non-informational (Content that serves no informational, promotional, or persuasive purpose, e.g. holiday greetings or inspirational quotes) (*no company or product is mentioned)

Q8) Dialogic loop? 1) Yes 2) No

Q9) If yes, 1) Asking a question (should clearly see the question)

2) Answering a question (should also clearly see what questioning is being answered)

Q10) Crisis tweeting:

- 0) No crisis present
- 1) Victim cluster (natural disaster, rumors, workplace violence, product tampering)
- 2) Accidental cluster (challenges, technical-error accident)
- 3) Preventable cluster (human-error accidents, organizational misdeed, management misconduct)

Q11) Crisis response (disregard if no crisis present):

- 1) Deny (attack the accuser, denial, scapegoat)
- 2) Diminish (excuses, justification)
- 3) Rebuild (compensation, apology)

Reply #1:

Q12) Reply #1 purpose: 1) Compliment 2) Complaint 3) Question 4) User's self-promotion
5) Give feedback/opinion

Q13) Company response present? 1) Yes 2) No

Q14) If yes, 1) Emotional support 2) Informational support

Reply #2:

Q15) Reply #2 purpose: 1) Compliment 2) Complaint 3) Question 4) User's self-promotion
5) Give feedback/opinion

Q16) Company response present? 1) Yes 2) No

Q17) If yes, 1) Emotional support 2) Informational support

Key coding variables	Definitions
Subject of tweet	Tweets can be coded as “non-negative” or “negative”. For a tweet to be non-negative, the content must be devoid of any negativity.
Purpose of tweet	There are six purposes of tweets in this study. Pure information simply reveals news that does not involve the company or product. Information with clear PR purpose is information relating to the company regarding image management. Sales/promotion information is overt product promotion to generate sales. Customer service is the company addressing concerns posed by users. Job recruiting is the company posting employment opportunities. Non-informational is the company posting content with no business purpose and is usually well-wishes during holidays.
Dialogic loop	Dialogic loop refers to a company either asking a question or responding to a question.
Reply purpose	There are five purposes of replies in this study. Compliment is a tweet that praises the company or product. Complaint is a tweet that criticizes the company or product. Question is a tweet that asks the company something that is ended by a question mark. User’s self-promotion is a tweet that promotes the user and has nothing to do with the company. Give feedback/opinion is a tweet that is neutral in content that a user offers in the conversation about the company.
Company response	Emotional support is the company attempting to make the user feel better by using compliments or positivity. Informational support is the company providing the information the user requires.
Interactivity	This study examines three levels of interactivity. Reactive interactivity is when a user replies to a company tweet. Full interactivity is when the company replies to the user’s reply.
Reply valence	Twitter is a public forum for the exchange of ideas. Users’ tweets to companies appear for everyone to see in much the same way as product reviews. Replies were coded positive, neutral, or negative.

List of Fortune 500 Companies

Note - All data was collected in the spring of 2014

Rank	Company	Type	Tweets	Following	Followers	# of Tweets Visible
1	Wal-Mart	B2C	195,854	3,175	446,223	3
2	Exxon Mobil	B2C	1,384	188	78,578	33
3	Chevron	B2C	5,855	343	160,440	5
4	Phillips 66	B2B	255	4	1,911	20
5	Berkshire Hathaway	-	-	-	-	-
6	Apple	-	-	-	-	-
7	General Motors	B2C	9,844	6,046	201,853	9
8	General Electric	B2C	73,647	15,755	179,311	7
9	Valero Energy	-	-	-	-	-
10	Ford Motor	B2C	11,806	32,602	373,481	6
11	AT&T	B2C	25,091	456	401,260	6
12	Fannie Mae	B2C	827	92	6,604	41
13	CVS Caremark	B2C	2,432	2,638	5,340	41
14	McKesson	B2B	906	240	4,771	43
15	Hewlett-Packard	B2C	24,688	2,800	570,138	2
16	Verizon Communications	B2C	11,108	1,127	126,262	4
17	UnitedHealth Group	B2C	2,946	1,153	4,472	26
18	J.P. Morgan Chase	B2C	687	57	14,538	7
19	Cardinal Health	B2B	1,084	873	4,625	33
20	IBM	B2B	1,973	6,979	86,033	32
21	Bank of America	B2C	1,731	162	208,248	9
22	Costco Wholesale	B2C	4	0	20,703	2
23	Kroger	B2C	5,169	112	51,532	9
24	Express Scripts Holding	B2B	1,647	643	7,769	11
25	Wells Fargo	B2C	4,105	744	73,236	6
26	Citigroup	B2C	8,551	4,627	233,243	6
27	Archer Daniels Midland	B2B	162	57	841	28
28	Procter & Gamble	B2C	4,102	1,176	68,930	13
29	Prudential Financial	B2C	458	5	14,561	10
30	Boeing	B2B	3,469	181	129,092	18
31	Freddie Mac	B2C	3,177	1,251	20,238	38
32	AmerisourceBergen	B2B	490	82	500	25
33	Marathon Petroleum	-	-	-	-	-
34	Home Depot	B2C	17,036	33,869	174,948	5
35	Microsoft	B2C	7,256	1,053	3,990,912	3
36	Target	B2C	12,958	1,488	1,034,020	7
37	Walgreen	B2C	28,067	2,497	330,110	7

38	AIG	B2C	734	613	15,501	31
39	INTL FCStone	B2B	2,981	228	3,352	58
40	MetLife	B2C	1,396	162	15,002	12
41	Johnson & Johnson	B2C	4,326	2,257	53,878	9
42	Caterpillar	B2B	2,303	121	44,301	60
43	PepsiCo	B2C	26,207	43,678	2,453,776	5
44	State Farm Insurance	B2C	21,960	9,490	46,169	9
45	ConocoPhillips	B2B	2,607	167	49,781	16
46	Comcast	B2C	2,064	978	35,008	2
47	WellPoint	B2C	2,072	1,033	1,824	24
48	Pfizer	B2C	1,571	2,095	87,258	54
49	Amazon.com	B2C	1,985	139	908,315	14
50	United Technologies	B2B	2,602	561	11,452	12
51	Dell	B2C	3,499	3,153	275,852	10
52	Dow Chemical	B2B	5,488	1,617	20,280	2
53	United Parcel Service	B2C	15,116	2,866	69,733	3
54	Intel	B2B	4,395	1,165	2,613,592	7
55	Google	B2C	4,703	398	7,923,826	13
56	Lowe's	B2C	23,719	12,351	126,501	9
57	Coca-Cola	B2C	86,016	67,916	2,262,677	31
58	Merck	B2C	1,886	556	28,055	28
59	Lockheed Martin	B2B	5,545	165	81,534	6
60	Cisco Systems	B2B	7,150	3,304	325,866	6
61	Best Buy	B2C	12,290	3,222	495,553	7
62	Safeway	B2C	10,873	3,422	33,849	16
63	FedEx	B2C	8,464	7,571	161,745	3
64	Enterprise Products Partners	-	-	-	-	-
65	Sysco	B2B	422	224	3,043	12
66	Walt Disney	B2C	2,338	42	3,473,027	15
67	Johnson Controls	B2B	240	236	5,633	9
68	Goldman Sachs Group	B2B	2,320	101	123,252	6
69	CHS	-	-	-	-	-
70	Abbott Laboratories	B2C	2,943	2,636	17,653	6
71	Sears Holdings	B2C	734	51	3,792	56
72	DuPont	B2B	15,999	206	24,534	2
73	Humana	B2C	4,152	107	6,980	14
74	World Fuel Services	-	-	-	-	-
75	Hess	B2C	84	0	1,121	27
76	Ingram Micro	B2B	2,142	580	10,721	57
77	Plains All American Pipeline	-	-	-	-	-
78	Honeywell International	B2B	1	31	999	1

79	United Continental Holdings	B2C	144,566	15,777	372,592	8
80	Oracle	B2B	5,636	652	206,288	5
81	Liberty Mutual Insurance	B2C	1,724	1,126	64,384	4
82	HCA Holdings	-	-	-	-	-
83	Delta Air Lines	B2C	8,500	1,060	596,100	10
84	Aetna	B2B	2,552	147	7,488	23
85	Deere	B2B	2,271	131	61,609	46
86	Supervalu	B2C	795	536	2,035	26
87	Sprint Nextel	B2C	10,611	19	193,315	12
88	Mondelez International	-	-	-	-	-
89	New York Life Insurance	B2C	5,263	2,210	103,435	3
90	American Express	B2C	25,080	19,537	697,974	4
91	News Corp.	B2C	13	15	2,835	6
92	Allstate	B2C	12,919	4,905	42,108	5
93	Tyson Foods	B2C	4,289	13,584	18,393	5
94	Massachusetts Mutual Life	B2C	3,612	228	9,413	5
95	Tesoro	B2C	7	0	50	1
96	Morgan Stanley	B2B	819	88	57,383	20
97	TIAA-CREF	B2B	6,222	2,637	10,022	6
98	General Dynamics	B2B	719	1,174	2,107	16
99	Philip Morris International	-	-	-	-	-
100	Nationwide	B2C	6,841	1,816	24,192	12
101	3M	B2B	1,803	162	22,826	9
102	DirecTV	B2C	32,159	4,964	118,837	3
103	Cigna	B2C	9,179	1,348	9,402	17
104	Murphy Oil	-	-	-	-	-
105	Time Warner	B2C	2,337	842	8,383	57
106	Halliburton	B2B	625	98	10,500	28
107	International Paper	B2B	41	11	412	6
108	Publix Super Markets	B2C	16,423	214	57,160	7
109	Macy's	B2C	27,172	1,187	353,824	6
110	Fluor	B2B	167	49	1,200	6
111	McDonald's	B2C	18,413	13,465	2,172,242	2
112	Hartford Financial Services	B2C	1,773	157	19,897	34
113	Rite Aid	B2C	5,043	1,397	33,318	10
114	Northwestern Mutual	B2C	2,439	259	6,714	57
115	TJX	B2C	1,665	0	702	17
116	Travelers Cos.	B2C	1,858	163	23,975	19
117	Avnet	B2B	6,189	5,890	8,828	7
118	Aflac	B2C	1,064	480	15,416	12
119	Tech Data	B2B	1,694	1,292	7,333	57

120	Northrop Grumman	B2B	6,222	337	44,796	3
121	AMR	B2C	445,699	38,362	719,896	15
122	Staples	B2C	30,190	18,952	266,508	9
123	Emerson Electric	B2B	292	1,913	5,024	53
124	Raytheon	B2B	8,426	2,162	36,545	2
125	Occidental Petroleum	B2B	10	7	635	3
126	Nike	B2C	12,743	159	2,656,988	15
127	Capital One Financial	B2C	6,928	56	84,346	4
128	Alcoa	B2B	4,654	6,114	13,897	32
129	Exelon	B2B	107	368	642	8
130	Eli Lilly	B2B	7,299	1,255	74,891	1
131	Xerox	B2B	11,246	1,422	100,598	2
132	U.S. Bancorp	B2B	3,057	570	7,213	8
133	EMC	B2B	12,045	3,683	52,620	3
134	Time Warner Cable	B2C	13,076	1,295	58,399	0
135	Baker Hughes	B2B	1,072	192	21,605	45
136	Kimberly-Clark	B2C	3,397	379	7,861	25
137	Goodyear Tire & Rubber	B2C	2,769	738	5,448	41
138	Union Pacific	B2B	998	5	12,582	55
139	United Services Automobile	B2C	5,001	32,420	59,460	24
140	ManpowerGroup	B2B	379	1,627	1,780	23
141	Arrow Electronics	B2B	1,218	903	2,684	9
142	PBF Energy	-	-	-	-	-
143	HollyFrontier	-	-	-	-	-
144	National Oilwell Varco	-	-	-	-	-
145	Duke Energy	B2B	1,158	22	18,439	36
146	Nucor	B2B	0	5	949	0
147	United States Steel	-	-	-	-	-
148	Kohl's	B2C	26,331	5,602	136,838	2
149	Qualcomm	B2B	4,695	13,758	99,900	11
150	CenturyLink	B2B	1,143	119	6,898	22
151	Kraft Foods Group	B2C	8,648	6,074	92,067	30
152	Danaher	-	-	-	-	-
153	AES	-	-	-	-	-
154	Whirlpool	B2C	2,531	791	12,749	48
155	Illinois Tool Works	-	-	-	-	-
156	Freeport-McMoRan Copper	B2B	299	10	34	7
157	Global Partners	-	-	-	-	-
158	Bristol-Myers Squibb	B2B	776	609	31,676	46
159	Altria Group	B2C	823	172	2,134	33
160	Cummins	B2B	919	60	22,206	41

161	Energy Transfer Equity	-	-	-	-	-
162	Amgen	B2B	940	0	18,910	56
163	Jabil Circuit	B2B	2,428	1,013	1,309	23
164	Southwest Airlines	B2C	15,580	10,454	1,603,051	17
165	Colgate-Palmolive	B2C	323	8	8,505	35
166	Progressive	B2C	9,368	7,362	24,136	23
167	Apache	B2B	362	117	2,853	51
168	Paccar	B2B	1,401	53	438	21
169	General Mills	B2C	5,292	3,134	18,594	4
170	PNC Financial Services Group	B2C	3,215	100	9,977	13
171	Southern	B2C	1,366	706	8,434	28
172	Medtronic	B2B	1,007	352	12,950	54
173	TRW Automotive Holdings	B2B	7	7	33	2
174	Marathon Oil	B2B	1,272	680	26,570	42
175	Dollar General	B2C	2,096	2,305	39,559	9
176	Computer Sciences	B2B	3,142	1,119	9,901	57
177	AutoNation	B2C	5,880	10,688	13,727	27
178	Icahn Enterprises	B2B	69	17	133,444	7
179	Gap	B2C	16,732	1,452	340,545	7
180	Bank of New York Mellon	B2B	289	784	5,196	16
181	FirstEnergy	B2C	615	16	2,297	27
182	PPG Industries	B2B	1,407	433	10,217	57
183	PG&E Corp.	B2C	7,793	1,425	18,308	7
184	Community Health Systems	-	-	-	-	-
185	American Electric Power	B2C	1,597	2,446	5,588	52
186	CBS	B2C	52,702	355	2,918,196	0
187	Lear	-	-	-	-	-
188	Loews	B2B	87	54	32	21
189	DISH Network	B2C	53,599	1,001	46,488	6
190	NextEra Energy	B2C	845	754	2,434	48
191	Omnicom Group	B2B	269	154	801	5
192	Kellogg	B2C	3,093	221	10,480	9
193	Baxter International	B2B	319	0	6,945	46
194	Land O'Lakes	B2C	4,609	3,837	9,763	19
195	Conventry Health Care	-	-	-	-	-
196	eBay	B2C	9,783	3,547	306,842	1
197	L-3 Communications	-	-	-	-	-
198	Viacom	B2C	1,845	288	14,485	19
199	US Airways	B2C	53,786	19,840	380,829	8
200	Waste Management	B2B	9,719	969	15,031	12
201	Yum Brands	B2C	657	219	9,272	56

202	Chubb	B2C	10,186	17,985	23,733	9
203	Penske Automotive	B2C	980	230	1,759	36
204	Toys "R" Us	B2C	7,326	22,123	486,383	7
205	Aramark	B2B	1,054	134	8,041	55
206	Monsanto	B2B	18,069	5,074	38,066	0
207	Anadarko Petroleum	-	-	-	-	-
208	Starbucks	B2C	17,981	86,372	5,795,263	18
209	ConAgra Foods	B2C	4,035	733	13,884	19
210	Dominion Resources	B2B	13,788	3,451	26,467	10
211	Parker-Hannifin	B2B	4,089	1,677	5,104	10
212	Edison International	B2B	23	53	294	5
213	Smithfield Foods	B2B	2,687	1,052	4,605	54
214	Genuine Parts	-	-	-	-	-
215	J.C. Penney	B2C	23,600	1,020	293,247	3
216	Navistar International	B2B	360	207	1,823	18
217	Dean Foods	B2C	145	52	725	23
218	Texas Instruments	B2B	8,575	1,321	32,558	1
219	Oneok	B2B	495	6	1,355	43
220	Thermo Fisher Scientific	B2B	4,484	817	6,243	29
221	Ally Financial	B2C	19,129	589	15,027	6
222	Western Digital	B2B	9,021	5,253	51,672	4
223	Chesapeake Energy	B2B	8,109	1,048	50,708	20
224	PPL	B2C	4,899	1,059	8,934	27
225	Textron	B2B	489	42	491	7
226	Consolidated Edison	B2B	3,878	423	22,254	14
227	Nordstrom	B2C	104,552	44,984	403,296	5
228	Marsh & McLennan	B2B	2,107	200	10,292	38
229	Ecolab	B2B	1,132	749	4,580	33
230	Marriott International	B2C	16,959	15,909	292,404	13
231	CSX	B2B	1,507	139	12,034	55
232	Whole Foods Market	B2C	105,293	543,802	3,635,908	1
233	EOG Resources	-	-	-	-	-
234	H.J. Heinz	B2C	352	123	2,958	29
235	Lincoln National	B2C	1,083	199	1,698	24
236	Health Net	B2C	707	88	1,745	58
237	C.H. Robinson Worldwide	B2B	4,479	1,122	4,923	19
238	Guardian Life Insurance	-	-	-	-	-
239	SunTrust Banks	B2C	1,468	95	7,950	19
240	SAIC	B2B	2,795	897	7,759	55
241	Huntsman	-	-	-	-	-
242	Praxair	B2B	51	18	670	11

243	Peter Kiewit Sons'	B2B	480	107	2,764	23
244	Las Vegas Sands	B2C	191	87	935	24
245	Stanley Black & Decker	B2C	129	94	1,639	29
246	Mosaic	B2B	1,152	463	2,475	37
247	Norfolk Southern	B2B	4,929	1,063	10,772	19
248	URS	B2B	118	11	1,780	20
249	Jacobs Engineering	-	-	-	-	-
250	VF	B2C	16	194	162	4
251	BB&T Corp.	-	-	-	-	-
252	Avon Products	B2C	5,067	791	71,282	1
253	Office Depot	B2C	13,638	22,285	61,583	8
254	First Data	B2B	8,226	1,090	11,033	11
255	Automatic Data Processing	B2B	6,883	1,719	21,944	3
256	Liberty Global	-	-	-	-	-
257	Unum Group	B2C	923	215	2,204	60
258	L Brands	B2C	995	131	4,591	46
259	CarMax	B2C	14,306	5,180	31,208	13
260	Visa	B2C	11,734	1,199	168,655	14
261	Entergy	B2B	1,986	5	7,352	50
262	Synnex	B2B	3,571	4,344	4,621	28
263	Ameriprise Financial	B2C	367	490	2,300	32
264	R.R. Donnelley & Sons	B2B	80	259	605	12
265	Kinder Morgan	B2B	457	56	2,557	44
266	Xcel Energy	B2C	2,558	1,169	4,712	44
267	CDW	B2B	4,299	1,560	16,490	6
268	State Street Corp.	B2C	3,046	1,272	15,796	5
269	Tenet Healthcare	B2C	1,419	146	2,319	45
270	Liberty Interactive	-	-	-	-	-
271	Genworth Financial	B2C	0	0	2,421	0
272	AGCO	B2B	6,855	3,023	12,297	33
273	Air Products & Chemicals	B2B	1,236	351	3,309	48
274	Newmont Mining	B2B	1,550	428	4,161	24
275	Reinsurance Group of America	-	-	-	-	-
276	Public Service Enterprise	B2B	1,246	166	13,586	36
277	KKR	-	-	-	-	-
278	Ross Stores	B2C	302	63	494	23
279	Estee Lauder	B2C	4,564	411	113,704	6
280	Gilead Sciences	B2C	200	152	3,248	22
281	Sempra Energy	B2C	112	256	3,152	29
282	Sherwin-Williams	B2C	3,712	292	38,921	11
283	Western Refining	-	-	-	-	-

284	Devon Energy	B2B	0	0	7,025	0
285	Bed Bath & Beyond	B2C	24,781	540	79,125	6
286	BlackRock	B2B	6,183	789	126,098	2
287	Family Dollar Stores	B2C	3,036	298	10,422	28
288	Hillshire Brands	B2C	485	52	1,843	33
289	Leucadia National	-	-	-	-	-
290	Principal Financial	B2C	4,529	557	6,167	16
291	Rock-Tenn	B2B	105	24	594	18
292	MGM Resorts International	B2C	3,483	2,793	16,620	54
293	Hertz Global Holdings	B2C	22,082	22,161	29,025	6
294	Discover Financial Services	B2C	21,361	827	57,385	4
295	W.W. Grainger	B2B	3,592	892	18,460	5
296	Henry Schein	B2B	2,410	5,276	8,770	47
297	Owens & Minor	-	-	-	-	-
298	GameStop	B2C	14,363	93	459,807	5
299	DTE Energy	B2C	8,131	1,570	11,686	17
300	Caesars Entertainment	B2C	5,294	1,848	33,780	39
301	Ball	B2B	637	1,941	2,009	50
302	Applied Materials	B2B	1,808	1,692	4,211	52
303	Centene	B2B	152	66	894	44
304	Motorola Solutions	B2C	3,375	699	4,762	23
305	Stryker	B2B	109	31	485	6
306	AutoZone	B2C	3,430	1,113	11,556	21
307	Sonic Automotive	B2C	933	187	386	5
308	Dover	-	-	-	-	-
309	Assurant	B2C	697	195	448	21
310	Cameron International	-	-	-	-	-
311	DaVita HealthCare Partners	B2C	4,845	4,853	5,506	17
312	Crown Holdings	-	-	-	-	-
313	Reliance Steel & Aluminum	-	-	-	-	-
314	NRG Energy	B2B	2,010	524	7,066	50
315	Peabody Energy	B2B	512	179	1,038	17
316	Reynolds American	B2C	56	332	332	21
317	Autoliv	-	-	-	-	-
318	Micron Technology	B2B	743	1,162	5,943	57
319	Hormel Foods	B2C	452	210	838	23
320	AECOM Technology	B2B	5,171	167	21,356	12
321	Ashland	B2B	826	158	593	24
322	Oshkosh	B2C	529	198	1,872	49
323	Republic Services	B2B	203	121	1,984	14
324	Eastman Chemical	B2B	431	244	2,201	32

325	Thrivent Financial for Lutherans	B2C	3,510	1,310	9,416	42
326	Corning	B2B	2,744	372	7,560	48
327	Broadcom	B2B	3,365	3,544	24,287	7
328	Darden Restaurants	B2C	662	379	1,678	18
329	TravelCenters of America	B2B	2,197	83	2,319	40
330	HD Supply	B2B	282	163	403	7
331	Spectrum Group International	-	-	-	-	-
332	Becton Dickinson	-	-	-	-	-
333	Sealed Air	B2B	146	201	634	21
334	KBR	-	-	-	-	-
335	Commercial Metals	-	-	-	-	-
336	Masco	B2C	3,247	11	219	33
337	Universal Health Services	B2C	63	54	95	21
338	Campbell Soup	B2C	3,359	1,293	34,930	12
339	Coca-Cola Enterprises	B2C	722	198	1,933	52
340	Charter Communication	B2C	5,512	2,352	12,955	3
341	Quest Diagnostics	B2B	862	317	3,061	44
342	Williams	B2B	520	578	3,501	50
343	Group 1 Automotive	B2C	768	837	2,137	37
344	CenterPoint Energy	B2C	2,501	622	2,516	21
345	WellCare Health Plans	-	-	-	-	-
346	Dollar Tree	B2C	2,199	7,984	92,220	49
347	Pantry	B2C	4,401	988	3,307	30
348	MasterCard	B2C	24,853	6,864	108,898	-
349	Tenneco	B2B	825	0	321	40
350	Avis Budget Group	B2C	4,028	276	2,299	18
351	Terex	B2B	1,058	96	2,696	34
352	Cognizant Technology Solutions	B2B	9,017	459	76,366	1
353	Fidelity National Financial	-	-	-	-	-
354	Steel Dynamics	-	-	-	-	-
355	Precision Castparts	-	-	-	-	-
356	Dana Holding	B2B	63	20	400	14
357	Boston Scientific	B2C	179	90	3,308	13
358	BorgWarner	B2B	0	1	282	-
359	Visteon	B2B	381	133	687	15
360	Barnes & Noble	B2C	7,285	262	103,415	24
361	Fifth Third Bancorp	B2C	4,188	180	13,705	4
362	Franklin Resources	B2B	1,703	251	18,657	10
363	Weyerhaeuser	B2B	599	783	1,580	28
364	Owens-Illinois	B2B	499	268	398	17
365	Alpha Natural Resources	-	-	-	-	-

366	Interpublic Group	B2B	521	175	3,304	28
367	OfficeMax	B2C	10,769	2,980	11,088	12
368	Core-Mark Holding	-	-	-	-	-
369	Pacific Life	B2C	149	20	870	38
370	Ralph Lauren	B2C	1,932	285	677,892	4
371	Agilent Technologies	B2B	1,602	38	12,337	60
372	Dole Food	B2C	2,762	1,036	38,295	36
373	Ameren	B2C	1,576	208	8,969	30
374	Mylan	B2B	267	0	1,027	30
375	Avery Dennison	B2B	463	254	3,857	16
376	Health Management Associates	B2B	21	2	122	2
377	PetSmart	B2C	13,011	7,733	124,747	3
378	Dillard's	B2C	2,574	261	16,091	20
379	Symantec	B2B	7,160	1,354	59,085	0
380	Huntington Ingalls Industries	B2B	5,575	637	2,123	16
381	Enbridge Energy Partners	B2B	2,324	896	5,668	44
382	Cablevision Systems	-	-	-	-	-
383	Jarden	-	-	-	-	-
384	Hershey	B2C	9,529	6,592	31,340	12
385	WESCO International	B2B	764	147	2,281	52
386	Ingredion	B2B	18	0	382	3
387	CBRE Group	B2C	2,376	493	76,202	6
388	UGI	B2C	1,661	218	1,130	51
389	NuStar Energy	B2B	99	20	666	38
390	McGraw-Hill Financial	B2B	3,334	1,882	6,428	5
391	Vanguard Health Systems	B2C	1,424	146	2,349	45
392	Casey's General Stores	B2C	3,794	2,577	5,535	36
393	American Family Insurance	B2C	12,860	6,145	27,800	3
394	Mutual of Omaha Insurance	B2C	590	1,039	22,816	19
395	Mattel	B2C	1,413	120	19,128	24
396	Celanese	B2B	596	106	1,167	34
397	Quanta Services	-	-	-	-	-
398	Level 3 Communications	B2B	2,508	2,719	12,979	5
399	EMCOR Group	-	-	-	-	-
400	Starwood Hotels & Resorts	B2C	21,472	59,378	113,095	8
401	Regions Financial	B2C	249	393	580	1
402	Northeast Utilities	B2C	426	179	3,349	42
403	Rockwell Automation	B2B	2,117	298	11,168	47
404	Ryder System	B2B	1,458	407	2,283	58
405	Anixter International	B2B	3,562	1,288	6,184	47
406	CMS Energy	B2C	3,635	1,439	6,453	35

407	CC Media Holdings	B2C	446	89	9,523	27
408	NetApp	B2B	7,871	1,886	102,103	2
409	Advance Auto Parts	B2C	2,361	247	5,471	8
410	Kindred Healthcare	B2C	1,338	411	2,234	49
411	Seaboard	-	-	-	-	-
412	O'Reilly Automotive	B2C	1,420	1,167	9,999	3
413	Foot Locker	B2C	52,606	3,898	779,075	1
414	Windstream	B2B	2,784	1,056	14,554	6
415	CH2M Hill	B2B	3,400	563	13,651	41
416	Omnicare	B2C	0	5	236	0
417	FMC Technologies	B2B	1,385	353	3,774	43
418	SLM	B2C	3,746	1,783	5,518	35
419	CF Industries Holdings	-	-	-	-	-
420	Sanmina	B2B	1,459	1,101	1,730	18
421	NII Holdings	-	-	-	-	-
422	PVH	-	-	-	-	-
423	Molina Healthcare	B2C	710	220	942	32
424	Cliffs Natural Resources	B2B	309	44	1,687	49
425	General Cable	-	-	-	-	-
426	Shaw Group	B2B	135	69	458	23
427	Dr. Pepper Snapple Group	B2C	1,218	227	3,802	25
428	Expeditors International of Wash.	-	-	-	-	-
429	Harris	B2B	2,563	162	3,038	49
430	AK Steel Holding	-	-	-	-	-
431	SPX	B2B	0	0	1	0
432	Actavis	B2C	70	42	1,907	36
433	Newell Rubbermaid	B2C	1,671	532	1,235	21
434	Fidelity National Information	B2B	211	339	814	2
435	Targa Resources	-	-	-	-	-
436	Booz Allen Hamilton Holding	B2B	3,465	322	25,471	3
437	Dick's Sporting Goods	B2C	17,002	1,329	197,474	3
438	W.R. Berkley	B2B	215	109	580	27
439	Live Nation Entertainment	B2C	25,567	24,565	328,121	1
440	Allergan	B2C	63	47	8,921	21
441	NCR	B2B	2,798	5,918	9,423	58
442	Mohawk Industries	-	-	-	-	-
443	Auto-Owners Insurance	B2C	56	114	347	1
444	Laboratory Corp. of America	B2B	0	0	803	0
445	Western Union	B2C	8,074	455	35,502	18
446	Joy Global	B2B	0	4	312	0
447	Energy Future Holdings	-	-	-	-	-

448	MeadWestvaco	B2B	1,124	355	1,868	40
449	Harley-Davidson	B2C	6,403	1,015	185,455	4
450	Con-way	B2B	2,814	909	7,107	60
451	MRC Global	-	-	-	-	-
452	J.M. Smucker	B2C	840	226	10,877	5
453	Exelis	B2B	1,384	595	2,232	42
454	Biogen Idec	B2C	77	63	714	0
455	Erie Insurance Group	B2C	1,525	156	3,617	30
456	Celgene	B2B	341	307	1,279	1
457	St. Jude Medical	B2C	362	178	2,265	37
458	Domtar	B2B	2,294	1,125	1,792	53
459	Calpine	B2B	1,970	210	215	23
460	Susser Holdings	-	-	-	-	-
461	Clorox	B2C	516	367	322	13
462	Kelly Services	B2B	2,938	677	5,572	40
463	Consol Energy	B2B	556	112	2,398	51
464	Advanced Micro Devices	B2B	3,487	4,368	95,863	58
465	Graybar Electric	B2B	2,516	349	4,324	52
466	Big Lots	B2C	2,756	592	10,032	58
467	Gannett	B2C	3,439	954	7,245	11
468	Telephone & Data Systems	-	-	-	-	-
469	Host Hotels & Resorts	-	-	-	-	-
470	Insight Enterprises	B2B	1,541	889	2,086	56
471	Western & Southern Financial	B2C	941	695	1,024	57
472	Andersons	B2B	28	118	667	15
473	Priceline.com	B2C	5,213	1,426	68,281	7
474	United Natural Foods	B2B	1,635	270	3,566	43
475	Spectra Energy	B2B	507	517	4,373	44
476	Owens Corning	B2B	743	3,538	8,450	40
477	Avaya	B2B	7,739	289	21,280	10
478	Wynn Resorts	B2C	10,519	8,574	530,441	11
479	Bemis	-	-	-	-	-
480	NiSource	-	-	-	-	-
481	MetroPCS Communications	B2C	13,346	2,068	38,142	6
482	Facebook	B2C	1,055	85	13,621,880	44
483	Pepco Holdings	B2B	11,683	824	11,318	16
484	United Stationers	-	-	-	-	-
485	American Financial Group	-	-	-	-	-
486	J.B. Hunt Transport Services	B2B	4,003	2,776	6,075	31
487	SanDisk	B2B	4,469	696	29,649	15
488	Charles Schwab	B2C	7,290	505	44,625	4

489	Pitney Bowes	B2B	8,829	2,801	4,606	15
490	Allegheny Technologies	-	-	-	-	
491	Jones Financial	B2C	918	95	5,075	24
492	Frontier Communications	B2C	5,645	1,926	5,366	24
493	Timken	B2B	1,566	1,681	6,083	60
494	Yahoo	B2C	35,990	8,269	1,183,740	0
495	JetBlue Airways	B2C	160,964	106,786	1,806,055	14
496	Old Republic International	-	-	-	-	-
497	Simon Property Group	B2C	1,751	264	2,008	13
498	YRC Worldwide	B2B	1,273	337	4,184	45
499	CA	B2B	9,883	8,164	82,544	0
500	Nash-Finch	-	-	-	-	-

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