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Jargon to Jackpot: The Financial Impact of Infusing Pop Culture References in Social Media

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Abstract:

This research explores the impact of incorporating pop culture references in a company's Twitter feed on the company's stock price. Pop culture is integral to people's everyday lives, providing a sense of familiarity and fun between individuals. Many companies have started leveraging pop culture references on social media platforms like Twitter to establish a relatable and engaging connection with diverse consumer demographics. The primary purpose of this research is to investigate whether this strategy is beneficial within the stock market. It is hypothesized that incorporating pop culture references on Twitter can lead to increased sales and higher stock prices, as investors see the potential for long-term growth and continuously exceeding market expectations with consumers familiar with the pop culture references used. Through qualitative analysis of four companies' Twitter feeds, pop culture references were detected daily and compared to each company's abnormal returns to answer the question. This research finds that pop culture references in Twitter feeds affect a company's stock return, specifically when it uses slang in its tweets. These results underscore the importance of considering social media engagement, including incorporating pop culture references within market strategies, as it can lead to brand awareness and loyalty, shaping investor perceptions and stock market outcomes.

Introduction:

Picture a conversation where "fire" is not just something that burns outside, "salty" does not describe food, and "dough" is not destined for the oven. American slang is more than a jumble of words. It is a secret handshake into a world of expression, cultures, and a sense of belonging. Slang is one of the many examples of pop culture, or 'popular culture.' Popular culture can be defined as "the *vernacular* or *people's* culture that predominates in a society at a point in time" (Delaney, 2007). According to Delany, pop culture is the "culture of the people" determined by people's everyday social interactions. The way people dress, their greeting rituals, the food they eat, and the use of slang are all examples of popular culture (Delaney, 2007).

Pop culture intertwines itself into people's everyday lives, shaping the connections we make with others and the connections we make with ourselves. Music, sports, celebrities, and social media all fall into the pop culture category. They can be common topics of conversation among communities, offering this form of familiarity and fun between people, adding ease to a tense conversation. According to Delaney (2007), pop culture encompasses life's most immediate and contemporary aspects. He describes pop culture as the subject of rapid change, especially how quickly society can spread information over various technology and social media platforms. The rapid spread of information serves as immediate entertainment and mirrors the evolution of the human experience. As pop culture adapts and evolves with cultural shifts, modern advertising strategies can often leverage different pop culture references on different platforms, such

as X[1], also known as Twitter, to establish a relatable and engaging connection with diverse consumer demographics.

According to the American Marketing Association, marketing is an organizational role to employ a process to generate, communicate, and provide value to customers. The company uses marketing to manage customer relationships that benefit the organization and its stakeholders (Calvert,2008). Marketing aims to stimulate favorable attitudes from customers about a product to increase customer demand. In recent decades, corporations have started using different marketing strategies, such as having active social media platforms like Twitter. As customer demand increases, the firm's sales, profitability, and popularity will also increase. The question then becomes, are these strategies beneficial?

According to a spending survey, firms spend 12% of their annual revenue on marketing (Pemberton, 2016). With a good portion of revenue being spent on marketing, the question of efficiency and effectiveness comes into play for firms. For example, mass media advertising may effectively promote a brand or product but may only sometimes be the most cost-efficient. The average 30-second TV commercial can range from $1,000 to $50,000, depending on the complexity. However, broadcasting costs can average around $105,000 for one 30-second slot. More competitive markets will charge more to broadcast commercials due to high viewership. NBC's Sunday Night Football could cost companies around $811,000 for a 30-second time slot (Motivated Marketing, 2022).

Conversely, in another example, online advertising may be cost-efficient but might not reach as many people, causing it to be less effective (Hanssens & Pauwels, 2016). Based on recent research, 58% of people ignore most online ads (LDM, 2023). Finding that

[1] For the sake of consistency, the social media platform, X, will be referenced as Twitter.

balance between efficiency and effectiveness can take a lot of work for marketing teams and company CEOs.

Marketers aim to create a strong relationship with their consumers, not only to have a high demand but to keep them coming back. One of the ways marketers have tried to achieve this is by gaining consumers' trust (Hanssens & Pauwels, 2016). Building trust with consumers requires establishing familiarity with them and letting them know they are heard and wanted. As a marketer, utilizing social media, especially Twitter, and referencing pop culture in tweets can be the strategic gateway to make consumers feel this way, making them positively perceive the brand and more likely to purchase their goods or services. Utilizing this marketing strategy can help find a happy medium between efficiency and effectiveness in a company's marketing schemes. The primary purpose of this research is to see if the strategy for creating this connection helps exceed expectations in the stock market. By firms leveraging pop culture references on Twitter, it is predicted that it can increase brand awareness, reach new audiences, and create a stronger emotional connection with consumers, which in turn can lead to increased sales and higher stock prices as investors see the potential for long-term growth and continuously exceeding market expectations with consumers who are familiar with the pop culture references used.

This research poses the following question: How does incorporating pop culture in a company's Twitter feed impact the company's stock price? This study looks at fast-food companies that actively use Twitter and how many pop culture references they use. This research explores a brief history of pop culture. Next, notable literature about advertising and pop culture's effects on consumer behavior are addressed, such as the effectiveness of

a hometown brand, social media consumption in children, and other research in behavioral economics. This study then goes into actual research, looking at the qualitative and quantitative portion of the data set, examining the use of pop culture references on the various companies' Twitter feeds and their effect on abnormal returns (holding all else equal). This research predicts that pop culture references will positively impact stock returns.

Background:

Societal norms, technological advancements, and global events have recently influenced popular culture. The Merriam-Webster dictionary defines social media as "forms of electronic communication" such as websites and now apps, where users create online communities to share information, ideas, personal messages, and other types of content (Edosomwan et al., 2011). However, before social media became mainstream, some pop culture references, such as slang, could spread just by worth of mouth. Slang is a significant factor in pop culture that has influenced whom people talk to and how they talk to them. One of the first and highly recognized groups that used slang was the American troops of WWI. These troops birthed some of the slang popular in the United States today. Such slang included the phrase *dog tags,* the names soldiers created to call the metal identification disks worn around their necks. There were also terms like *jenny*, "an airplane used for training," and *rookie*, "a recruit." Over the decades, not only did military slang gain popularity, but it also evolved in meaning to continue to stay relevant in civilian society. Such phrases that fall into this category are phrases like, *over the hill* or *over the top,* which

initially described WWI soldiers facing probable and immediate death. However, in the civilian definition, someone *over the hill* is usually past their prime and getting older. Alternatively, *over the top* describes someone as excessive or unreasonable (Coleman, 2012). These terms are prime examples of slang evolving and fitting into a modern atmosphere. As years passed, the birth of social media allowed pop culture references to expand in a new manner.

In the early 2000s, many social media platforms emerged, such as Twitter. Twitter was proposed by an engineer named Jack Dorsey, who proposed a short message service (SMS) where users could share small blog-like updates with friends. The completed version of Twitter debuted in July 2006 (Britannica, 2024). After a few years of being a part of mass media, many celebrities, businesses, and politicians began to take part in the new platform, as they saw the value of Twitter as a communication tool (Britannica, 2024). With a wide variety of ways to share information, different cultural references have emerged and gained popularity. For this research, it is imperative to define the different references of pop culture to determine if they affect stock prices when used on Twitter. Slang, memes, internet trends, and entertainment references are all different types of pop culture references used in this research (see Appendix A).

Overall, pop culture has allowed people to express themselves and relate to one another, yet, at times, there are moments where it can pose several problems, especially in the media. One of them is the reinforcement of stereotypes. Pop culture can generate stereotypes based on race, gender, sexuality, and other characteristics (Central Community College, 2023). For example, in Television, how ethnic characters are portrayed in Hollywood has been a major concern. Many actors of different minority groups land roles

in TV shows and movies that portray them as maids, criminals, and sidekicks with no true character plot or life of their own (Nittle, 2020). Because of the specific representation (or lack thereof) of people in different ethnic communities, stereotypes emerge about those communities, leading to discrimination, bias, and a lack of complete understanding of different groups in society. Pop culture in the media can also portray unrealistic beauty standards, especially within the fashion and entertainment industries, that can cause consumers to have body image issues, lack of self-esteem, and eating disorders in extreme cases (Central Community College, 2023). Finally, using pop culture references in conversation, such as slang, can be offensive if used in different localities. For example, *gypped* is commonly used to describe someone deceived or tricked by something. However, the word stems from *gypsy,* which has been used as a derogatory slur against Romani people (Hwang, 2011). If this word were to be used in South Asia, there could be significant backlash to the person using it (Hwang, 2011). Finding the correct times to use pop culture references and using them for the right reasons is crucial for it to continue to evolve and be used in interactions. In marketing, marketers must avoid these problems to avoid creating a further disconnect with consumers.

Literature Review:

The Effects Advertising Has on Consumer Behavior

Advertising can substantially impact consumer behavior, yet how advertising affects consumers varies, depending on the consumer's characteristics, feelings, and what the advertising portrays. Wei (2023) looks at hometown brands and homesickness advertising to see how they affect consumers' feelings about the advertised brand. Hometown brands can be seen as symbols of a specific region and can induce feelings of being homesick to consumers far away from home. For example, Wawa is a prime hometown brand for the Mid-Atlantic region of the U.S. People who grew up in this region are highly familiar with this chain of American convenience stores (Guzzetta, 2018). Wei (2023) says homesickness advertising highlights a particular brand and the products within that brand intending to make consumers feel homesick. When consumers watch these ads, the researchers hypothesize that once the ad makes them feel homesick, they will take pride in the brand, leading them to have positive behavior towards the brands, such as favoring them more often and talking highly of them.

To test their hypothesis, researchers created a series of experiments where subjects were randomly selected to read either material (text and pictures) characterized by homesickness advertising or material not represented by homesickness advertising. The subjects were then asked to complete surveys rating the materials they read and prompted with questions about them. From this experiment, they found that homesickness advertisements were, indeed, more likely to stimulate positive behavior toward hometown brands than non-homesickness advertisements. They also found a solid emotional change

in the participants, meaning that these advertisements can create a personal relationship with consumers, allowing them to feel a sense of belonging and self-identity. One of the limitations researchers had in this experiment was that they used mainly experimental methods for this research, which meant the hometown brands used were nonexistent. So, the researchers questioned how much behaviors toward brands would change if this was a field experiment used with actual hometown brands (Wei, 2023). This research concluded that emphasizing hometown brands can create a personal relationship with consumers and lead to consumers having positive behavior towards that brand. However, this research only looks at behavior and not actual consumption, which can be crucial to see if the cost of making the ads is worth it. Marketing strategies targeting specific age groups have become increasingly common as companies seek to understand better and connect with their target audiences.

Age groups can strongly affect how much advertising generates or loses revenue for firms and determine monetary decisions in their households. According to Calvert (2008), children are an attractive audience for marketers due to their influence over their guardians' purchasing habits. In 2002, U.S. four-to-twelve-year-olds influenced $30 billion in household purchases. Twelve-to-seventeen-year-olds influenced $112.5 billion in household purchases. The study also found that the youth control the decisions of specific buying patterns. Children influence everything from vacation choices to meal selections, having a say in household purchasing amounting to over $500 billion annually. Due to their strong influence on purchasing in their households, there is potential for firms to profit significantly when children watch and are influenced by their advertisements. In 2004, about $15 billion was spent on marketing expenditures to target children. In previous

decades, attracting children through TV commercials was the most effective way to advertise to that age group (Calvert,2008). According to Moore (2004), on average, U.S. children watched almost 5 hours of television commercials weekly. TV consumption has shifted to social media consumption, so marketing strategies must also shift. The question now becomes, do children have the same consumption patterns and purchasing power?

With different ways to consume media, TV consumption has shifted to YouTube consumption among children, meaning marketers have also shifted their marketing tactics to become more up-to-date with the times. In 2018, YouTube videos were viewed 46.8 billion times, and with those many hours of viewing content comes a considerable number of ads. In a recent case study, researchers examined food and beverage advertisements encountered in YouTube videos targeting children in Malaysia. Through social media analytics, 250 children viewed 187 ads. Those ads were coded into separate categories, and the Food and Beverage category was further coded based on food type and persuasive marketing techniques used. Twelve categories emerged from these ads, with the highest being Food and Beverage (n=71, 38%). Noncore foods, such as foods high in undesirable nutrients such as high fat, refined sugars, and salt, were the highest viewed from the Food and Beverage category (n=40, 56.3%). Among the noncore food ads, the most employed persuasive marketing technique was taste appeal (42.3%) (Tan et al., 2018). With the consumption of this type of media so high and the likelihood of unhealthy foods being what young viewers are persuaded into purchasing, the concern of childhood obesity has become a crucial health problem over the past few decades. About two-thirds of obese children eventually become obese adults. One of the prime influencers of childhood obesity is persuasive advertising of unhealthy foods. According to the American Psychological

Association, research has found that for every one-hour increase in TV viewing per day, children will have higher intakes of unhealthy foods, leading to an increase of 48,700 calories per day (American Psychological Association, 2010). With a full range of hours of content on YouTube, one can conclude that YouTube ads contribute to the growing crisis of childhood obesity (Tan et al., 2018).

Advertising has many impacts on consumer behavior; sometimes, creating personal advertisements for each consumer further builds the relationship firms need to make with the consumer to see growth. "Behavioral targeting," or targeted advertising, according to Chen and Stallaert (2014), "uses information collected from an individual's web browsing behavior" to create personalized advertisements for users on different internet platforms. According to Statista Research Department (2023), over $626.86 billion was spent on digital advertising worldwide, and it is projected to go up by as much as $110 billion (Statista Research Department, 2023).

Advertising aims to create a positive relationship with consumers, yet that might only sometimes be the case, especially when it is not a trustworthy relationship. Instead, firms can have dishonest relationships with consumers, deceiving them about a product. According to Xie, Madrigal, and Boush (2015), deceptive advertisements, which refer to ads that portray false benefits about the product, ethically violate the point of advertising and can lead to many negative impacts, such as financial cost for firms, psychological distress, and consumer distrust. For example, in 2012, Reebok was accused of making false claims about their shoes, advertising that they could tone and strengthen lower body muscles. These claims resulted in Reebok being ordered to refund consumers $25 million in a settlement. This caused significant setbacks for the company, such as losing loyal

customers and popularity and a destroyed reputation, which caused the loss of hundreds of thousands of loyal customers (Xie et al., 2015).

The same authors decided to examine how much consumers are affected by deceptive advertisements. In the study, the subjects were asked to look at a product advertised as weight loss pills. The subjects were split into groups, one where subjects would read an ad that posed harmful side effects to the drug and the other where the ad posed harmless side effects. Both groups were then asked to read a clinical trial about the drug that emphasized that the drug had harmful side effects, which acted as potential proof of deception from the positive side effect advertisement. The subjects were then asked to fill out a survey of what they thought about the drug and if they would purchase it. The study found that overall, both groups had a negative evaluation of the product and the brand, especially when the subjects were shown the misleading ad and then shown the anticipated harm the drug could have based on the clinical trial (Xie et al.,2015). This research showed that when advertisements were not truthful about a product, the people watching the ad and reading the clinical trial found it inherently unacceptable and potentially dangerous (Xie et al., 2015). This deception dismembers the trustworthy relationship companies want to create with their consumer, which can lead to a potential decrease in sales for their goods or services.

The Effects Popular Culture Has on Consumer Behavior

Pop culture is heavily recognized and found on social media platforms in the digital age. This means that it is vital for marketers to be on these platforms in order to portray their ads to large audiences. In research by Kumar et al. (2015), researchers wanted to find

out if making an effort to have a presence on social media would affect their monetary value and create a profitable relationship in the digital world. In order to measure this, they studied a particular company, Hokey Pokey, which is a chain of ice cream stores that has a strong presence in India. The study stated that this conglomerate understood the importance of joining the digital world and created an online presence in social media. The researchers asked how to measure the return on investment (ROI) for joining social media marketing. In order to measure the monetary value of social media marketing, they use a unique metric called consumer influence effect (CIE). This is an empirical value that is the net influence wielded by a user (in a social network) in terms of his or her ability to spread the knowledge of the ad to direct and indirect connections. They then take that metric and add a monetary value, which looks at the monetary gain/loss gathered by the firm that is attributable to CIE, which they call consumer influence value (CIV) (Kumar et al., 2013). The researchers posted two social media campaigns on various platforms like Facebook and Twitter. Researchers then measured how often people interacted with the campaigns through the CIE. Whether that be through forwarding, retweeting, or direct messaging the campaigns, as well as the number of comments and likes on the posts. The researchers then observed the offline purchases at each store using the CIV metric, which was collected and tied to the CIE from the two social media campaigns to identify the monetary value of online influence (Kumar et al., 2015).

In the pre-and post-performance metrics, Hokey Pokey ended up experiencing a positive sales lift following the months the campaigns were posted. After the campaigns were aired, Hokey Pokey experienced an ROI 2 times greater than what it had before the campaigns aired. They also saw a 40% spike in sales and loyalty, as the number of repeat customers significantly increased due to the campaign (Kumar et al., 2015). This research shows explicitly the power

social media can have on advertising. Not only did Hokey Pokey see a spike in popularity, but they also saw an actual monetary effect from this form of advertising. Because social media is one of the main ways pop culture spreads, many people use it daily. This research displays how leveraging aspects of pop culture can be a strong moneymaker for companies and their brands.

Not only can users influence the popularity of a brand, but specific popular influencers can also play a significant role in brand awareness. Influencer marketing emerges as marketers try to keep up with recent pop culture trends. Influencer marketing is a marketing tactic where an influencer works with a particular company to promote the products the company sells on their social media platform—allowing thousands of individuals to be exposed to that product by a relatable person giving them opinions and reviews on the product (Khan et al., 2021). In a study at the University of Punjab, Lahore, researchers looked at the impact influencer marketing had on consumer behavior towards a particular product. In the study, researchers gathered participants to watch influencers on Instagram promoting a product. Then, it followed up with a questionnaire for participants to fill out on their behavioral tendencies based on what they observed. Such questions asked about their likelihood of buying the product, their trust, and their interest in it after seeing the influencer promote it. Based on the results, it was found that the participants' buying behavior and the brand image were positively influenced after watching the influencer promote the product. Marketers can use this form of marketing to expose the product and brand to target audiences more organically. Having multiple influencers promoting a product creates a whole advertising campaign for marketers without them having to lift a finger (Khan et al., 2015).

Pop culture significantly influences consumer behavior and has become an essential factor in advertising. While many articles focus on promoting a product in different ways, few examine precisely what pop culture references are being posted and the monetary effect of those posts. This research examines how incorporating pop culture references in advertising campaigns impacts stock prices. This study will examine companies with a following on Twitter that leverage different types of pop culture references. This research will then code for those references to see if the abnormal returns of that given company can be determined by using pop culture references on Twitter. This study will offer valuable insights into whether companies should spend the time to incorporate these references from the current day and age in order to attempt to increase stock prices. This research hypothesizes that incorporating pop culture references into a company's Twitter accounts will positively impact a given company's stock price.

Data:

The data collected for this research comprises the Twitter feeds of four companies over a year, from late 2023 to a year prior. Content analysis was performed to account for how many pop culture references were used in each company's Twitter feed. Fast-food restaurants have gained significant media attention for their Twitter activity, contributing to their overall visibility. Popular news sources like HuffPost, US Weekly, and TODAY have written various articles discussing the entertaining tweets fast food restaurants post and the sizeable following they have gained from it. A 2019 study examined the social media presence of 50 top-selling restaurants, rating Starbucks, McDonald's, and Wendy's as the top three in terms of Twitter (Smith, 2022). These companies have demonstrated expertise

in engaging with consumers on the platform. Because of their substantial success, three of these companies are included in this research. Chipotle, which is among the top-selling restaurants, has also been chosen for its significant Twitter following and its utilization of diverse pop culture references within its feed. Additionally, the fast-food industry provides a backdrop of a singular product type that segments the consumer basis into a grouping that has common behavioral and decision-making patterns.

The data also includes several financial ratios, such as Earnings Per Share (EPS) and Asset Turnover Ratio (ATR), found on Yahoo Finance. These ratios help to control for any variations in investors' decisions that could affect the stock price. These ratios provide insights into the financial health and operational efficiency of companies. EPS is one of the most important metrics used to determine a firm's profitability on an absolute basis. For investors, this is a great metric to help determine the value of earnings and earnings potential, assisting them in deciding if they want to buy or sell the stock (Fernando, 2024). Similarly, ATR measures the value of a company's sales or revenues relative to the value of its assets. The higher the ATR, the more efficiently the company generates revenue from its assets (Hayes, 2024). Investors will use this metric to offer insight into a firm's operational performance and help decide to buy or sell a stock.

In addition to these industry-standard financial metrics, this research also considers company-specific financial indicators, such as Daily Trading Volume (DTV). DTV measures the number of shares traded in a stock and is found on Yahoo Finance. Volume can indicate market strength, as increasing volume may signal increased investor interest or market volatility, potentially impacting stock prices independent of the fundamental financial performance captured by traditional ratios (Twin,2022). Including DTV alongside standard

financial metrics can help control these external influences and isolate the specific effects of pop culture references in a company's Twitter feed on its stock return.

This research included financial ratios, company-related metrics, and macroeconomic variables, such as inflation and interest rates, as control variables. Daily interest rates and monthly Personal Consumption Expenditures (PCE) were found on the Federal Reserve Economic Database. PCE is an index that measures the prices of goods and services purchased by individuals in the United States. This index captures the change in the price level of a wide range of consumer expenses and behavior, making it an appropriate metric to measure inflation (or deflation) rates (Bullard, 2013). Interest and inflation rates are fundamental economic indicators influencing investor behavior and stock market dynamics significantly. By including interest and inflation rates as control variables, this research aims to account for the broader economic influencers that may alter an investor's decision to buy or sell, ultimately leading to a change in stock returns. Table 1 includes the definitions of the control variables used for this research and the formulas calculated to obtain the financial ratios (see Table 1).

Table 1: List of Control Variables and their Measurements

Control Variables:	**Definitions:**	**Formulas (if needed):**
Earnings Per Share (EPS)	Measures a company's profitability per outstanding share of stock.	$EPS_{it} = \frac{Net\ Income}{Total\ Number\ of\ Outstanding\ Shares}$
Asset Turnover Ratio (ATR)	Measures a company's ability to generate revenue from its assets	$ATR_{it} = \frac{Total\ Sales}{Total\ Assets}$
Daily Trading Volume (DTV)	Number of shares traded during a particular trading day on a stock exchange or market.	DTV_{it} = *Total Number of Shares Traded*
Interest Rate	A percentage of the initial amount a lender charges the borrower over time.	Federal Funds Effective Rate is taken as a proxy for interest rates.
Inflation Rate	A percentage that refers to a rise in prices, resulting in a decline in purchasing power over time.	Personal Consumption Expenditures Price Index (PCE) is a proxy for inflation rates.

Determining pop culture references is subjective, as it is the researcher's discretion to determine whether a pop culture reference is detected. For this research, pop culture references have been classified into four categories: slang, meme, trend, and entertainment. Different communities and demographics could have different definitions of what a pop culture reference is and how it falls under these categories, leading to potential data skewing and researcher bias.

In an attempt to garnish agreement on what counts as a pop culture reference, a codebook was created with detailed definitions of each category and what it does and does not look like in Twitter feeds (see Appendix A). This can assist with what counts as a pop culture reference. To test the codebook's consistency, an exercise composed of five

respondents with different demographics and perspectives was chosen to read the codebook thoroughly and identify the types of pop culture references on a Twitter feed. For this exercise, participants looked at McDonald's Twitter feed from the most current post to all the posts from a few months before and tallied how many and the type of reference they saw for each post.

Based on the results, Respondent 1, who was the same age as the researcher, had the highest comparison, with 93% of what they identified as a pop culture reference matching the researcher. Respondent 2, another person of the same age, had a comparison of approximately 68% matching the researcher. Nevertheless, since Respondents 1 and 2 were the same age as the researcher, Respondent 3 was selected from a different age group to test the codebook's legitimacy throughout generations. Based on their answers, 71% of Respondents matched the researchers (See Appendix B).

The outcome of this exercise indicates some level of inevitable subjectivity and personal discretion in identifying pop culture references. Still, with all of the respondents having more than 60% of their answers match those of the researcher, this indicates that the codebook can establish a standard for performing content analysis on determining pop culture references used in Twitter feeds and can be used for the companies used in this research. Based on the variables under examination, Table 2 includes descriptive statistics for each variable, providing a numeric overview of each variable (see Table 2).

Table 2: Descriptive Statistics

No of obs. 1529 Variables:	**Min**	**Max**	**Mean**	**Std. Dev**
Slang	0	1	0.04709	.21189
Meme	0	1	0.02681	.16159
Trend	0	1	0.005886	.07652
Entertainment	0	1	0.01897	.13645
EPS	0.190	44.590	12.619	18.996
ATR	0.09756	.33581	0.21556	.10382
DTV	67400	24388600	2917783	2605840
Interest	3.080	5.330	4.803	.53769
Inflation	-0.1262	1.5939	0.4575	.39592

Table 2 shows a total of 1,529 observations. The independent variables are shown as dummy variables, meaning that in the model, they will equal 1 when the pop culture reference is present in a tweet on that day and 0 when they are not. Slang, Meme, Trend, and Entertainment all have lower means, indicating that these pop culture references are not as prevalent in the observed data. This, in theory, makes sense, as excessive use of pop culture references may come across as insincere to consumers and disengage them from interacting with the companies on Twitter. However, the standard deviations for these variables are quite large, indicating that while they may not appear frequently on average, there are instances where they occur frequently for some companies but not for others. For this research, it is vital to have companies that use pop culture references often and others

that do not, as this will provide variability to determine if the use of pop culture references alone affects stock returns.

The two control variables with the most variability are DTV and EPS. Both variables have large standard deviations compared to the mean, suggesting significant earnings and trading volume variation. The maximum and minimum for both variables are also quite large in range, which would be expected as the four companies may differ in profitability or market popularity.

Theoretical Model:

This study aims to investigate if there is a relationship between the frequency of pop culture references used by a company and its stock price. To determine this, this research uses a metric called abnormal returns, defined as an investment's performance exceeding expectations based on risk and market expectations (Schmidt, 2015). Abnormal returns can be calculated by finding the Fama French 3 Factor Model residuals. This model is an extension of the Capital Asset Pricing Model (CAPM), a single-factor model investors use to assess whether a stock is fairly valued by analyzing its expected returns with systematic risk (Hayes, 2024). The Fama French 3 Factor Model was created by professors Eugene Fama and Kenneth French at the University of Chicago based on the observation that value shares tend to outperform growth shares, and small-cap shares tend to outperform large-cap shares (Reed, 2022). Based on this observation, Fama and French added two independent variables to the equation: value risk and size risk. This provided a more comprehensive framework for asset pricing analysis, enabling investors and analysts to make better-informed investment decisions. Studies conducted by Fama and French

revealed that their model could explain more than 90% of diversified portfolio returns (CFI Team, 2015). Table 3 defines each of the variables in the model (refer to Table 3).

$$E_{ri} = \alpha_i + \beta_{im} (r_{mt} - r_{ft}) + \beta_{iSMB} (SMB) + \beta_{iHML} (HML) + e_{it}$$

Table 3: Fama French 3 Factor Model List of Variables and Their Definitions

$\mathbf{E_{ri}}$	The expected excess return of security *i*
$\boldsymbol{\beta}$	Sensitivity to security *i's* returns
$\boldsymbol{(r_{mt} - r_{ft})}$	Market Risk Premium
SMB (Small Minus Big)	Histories of excess returns of small-cap companies less large-cap companies
HML (High Minus Low)	Historic excess returns of value stocks (high book-to-price ratio) less growth stocks (low book-to-price ratio)

This model is the first step to creating the primary theoretical model imperative for this research. When the Fama French regression is run, the residuals can be calculated. The residuals are calculated by subtracting the actual values in the regression from the expected excess return of security *i* (Schmidt, 2015). These residuals, or abnormal returns, are returns that the independent variables in the Fama-French model cannot account for. The question then becomes, where did these returns come from? How or what caused the company to outperform or underperform the expected results? Many different factors can cause abnormal returns. Maybe something in the news came out about that particular company, peeking investors' interest and allowing that company to outperform. Perhaps the company is in a lawsuit that destroyed its reputation, causing it to underperform. For

example, on a day in August of 2023, Apple Inc. saw an abnormal return of almost -4%. On the same day, Apple released its quarterly earnings, showing a decrease in iPhone, Mac, and iPad revenues (Leswing, 2023). As a result, investors might have been dissatisfied with this news, which could have led them to sell the stock, causing a significant decline in return. Regardless of the performance, it can be challenging to pinpoint what exactly is causing abnormal returns. However, if companies could identify the reasons for the abnormal returns, they could use that to their advantage to help them consistently outperform market expectations, allowing investors to make informed decisions about the company when assessing the trade-off between risk and return in a portfolio (Schmidt, 2015).

In this research's primary model, the theoretical model seeks to determine if using pop culture references in companies' tweets helps them increase their abnormal returns, allowing them to outperform market expectations. Table 4 includes the variables and what they signify in the model (see Table 4). The theoretical model is as follows:

$$AR_{it} = \alpha_i + \beta_1 SLNG_{it} + \beta_2 MEME_{it} + \beta_{3R} TRND_{it} + \beta_4 CELEB_{it} + \beta_5 ATR_{it} +$$

$$\beta_6 EPS_{it} - \beta_7 INFLTN_t - \beta_8 INTRST_t + \beta_9 DTV_{it} + e_{it}$$

Table 4: Primary Theoretical Model Variables and Definitions

AR	Abnormal Return of *i*th company in time of tweet *t*
SLNG	SLNG=1 if there is slang present in the *ith* company's tweet during time *t*; 0= otherwise
MEME	MEME=1 if there is a meme present in the *ith* company's tweet during time *t*; 0= otherwise
TRND	TRND=1 if there is a trend present in the *ith* company's tweet during time *t*; 0= otherwise
CELEB	CELEB=1 if there is an entertainment reference present in the *ith* company's tweet during time *t*; 0= otherwise
ATR	Asset Turnover Ratio of *ith* company in time *t*
EPS	Earnings Per Share of *ith* company in time *t*
INFLTN	Inflation in America in time *t*
INTRST	Interest rates in America in time *t*
DTV	Daily Trading Volume of *ith* company in time *t*

In this theoretical model, multiple variables help explain whether pop culture references affect abnormal returns. These variables include SLNG, MEME, TRND, and CELEB. These are dummy variables used to determine if a type of pop culture reference is used by the *ith* company on Twitter on the *t* day. Previous research done on the Hokey Pokey ice cream parlor showed that having an online presence on social media positively impacts a company financially, as it allows consumers to engage with the company better (khan bs). Similar results are expected for this research when companies use pop culture references on social media to engage with their consumers.

Based on research run by Din (2017), the study investigates the stock return's predictability by using the financial ratios of PSX 100 Index companies. From running Ordinary Least Squares (OLS) with the various stock returns of the companies, researchers found ATR to be significant and positive in predicting stock returns. Inflation and interest

rates are also significant and negative (Din, 2017). Additionally, this research found EPS to be significant but negative. However, increased Earnings Per Share generally indicates a company's profitability on a per-share basis. Investors perceive this positively, which may increase a company's demand and stock price. So, for the sake of this research, EPS is positive.

In another study, Dino (2023) looks at daily trading volume's impact on stock price. The researcher collected daily trading volumes and stock prices from various large-cap stocks from American companies in different industries. Various OLS regressions (models with and without control variables) were used to see if DTV was statistically significant and positively or negatively impacted the stock price. After comparing each regression, the researchers found a statistically significant and positive relationship between DTV and stock price (Dino, 2023).

Based on previous studies, the theoretical model used for this research shows that ATR and DTV are positive, while interest rates and inflation are negative. EPS is also considered positive within the model, predicting its impact on stock price.

Results:

For the results of this research, using the method developed in the previous section was considered to come to an answer and a conclusion for the question. How fast will the stock market internalize information? If one pop culture reference was posted on *t* day, would the impact of the abnormal return also be reflected on *t* day? Or would there be a lag in how many days the tweets reflect abnormal returns? How long would the pop culture reference take to make an impact? To explore the different possibilities, abnormal returns were lagged for a period of 1-5 days in each regression, as well as a regression where they

were not lagged at all. Table 5 summarizes the outcomes of the models and their significance (see Table 5). Lagged abnormal returns (AR) can be reflected based on the number next to the variable; for example, AR1 shows the abnormal returns to be lagged for one day. AR2 shows the abnormal returns lagged for two days, and so on. Based on the results, Model 2, where the abnormal returns were lagged by one day (AR1), had the most impactful and theoretically interesting result (Table 5). Model 2 found the SLANG variable significant at the 5% level, revealing that when slang was used in a Twitter post, the abnormal return would increase by 0.24% the next day. The interest rate was also significant at the 1% level, showing that when interest rates increase by one unit, abnormal returns decrease by 0.19%. One possible reason for this outcome is that higher interest rates can increase borrowing costs for companies, which can reduce their profitability, ultimately leading to lower returns for investors and causing a negative relationship between interest rates and abnormal returns.

Interestingly, the SLANG variable is only significant for a day after the tweet was posted and then shows no lasting impact on abnormal returns after that, showing only a temporary influence on stock returns. When abnormal returns lagged by three days (AR3), the CELEBRITY variable is also significant and negative. This was unexpected, as you would anticipate using an entertainment reference to positively impact stock return due to the popularity of the entertainment realm. It also only had an impact three days after the tweet was posted. This could potentially be due to an omitted variable problem. Therefore, model 2 shows the best result for answering the question. So, when pop culture references are used on Twitter, specifically SLANG, it positively affects company stock returns.

Table 5: R Output

	Dependent Variable					
Variables:	AR	AR1	AR2	AR3	AR4	AR5
	(1)	(2)	(3)	(4)	(5)	(6)
SLANG	0.0006	.0024	-0.0002	0.0006	0.0009	0.0006
	(0.0010)	(0.0010)**	(0.0010)	(0.0010)	(0.0010)	(0.0010)
	t = 0.6375	t = 2.3356	t = -0.1672	t =0.5593	t = 0.9115	t = 0.6112
MEME	-0.0003	0.0004	0.0009	0.0017	0.0006	-0.0013
	(0.0013)	(0.0013)	(0.0013)	(0.0013)	(0.0013)	(0.0013)
	t = -0.2646	t = 0.3290	t = 0.6593	t = 1.3093	t = 0.4458	t = -1.0048
TREND	0.0003	0.0016	-0.0008	-0.0013	-0.00002	0.0017
	(0.0028)	(0.0028)	(0.0028)	(0.0028)	(0.0028)	(0.0028)
	t = 0.1268	t = 0.5629	t = -0.2741	t = -0.4706	t = -0.0055	t = 0.6252
CELEB	0.0004	-0.0016	-0.0030	0.0022	0.0012	0.0015
	(0.0015)	(0.0015)	(0.0015)*	(0.0015)	(0.0015)	(0.0015)
	t = 0.2933	t = -1.0324	t = -1.9283	t = 1.4546	t = 0.7904	t = 0.9855
ATR	0.0045	-0.0036	-0.0063	-0.0038	-0.0094	-0.0067
	(0.0035)	(0.0035)	(0.0035)*	(0.0035)	(0.0035)***	(0.0035)*
	t = 1.2864	t = -1.0234	t = -1.8037	t = -1.0700	t = -2.6865	t = -1.9083
EPS	-0.00004	0.00002	0.00005	0.00003	0.0001	0.0001
	(0.00002)	(0.00002)	(0.00002)**	(0.00002)	(0.00002)***	(0.00002)**
	t = -1.6200	t = 0.9524	t = 2.0282	t = 1.2658	t = 3.2027	t = 2.3402
INFTN	-0.00002	0.0001	-0.0002	-0.0003	0.00004	-0.0001
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
	t = -0.0328	t = 0.1101	t = -0.4536	t = -0.5043	t = 0.0834	t = -0.1510
INTRST	-0.0020	-0.0019	-0.0018	-0.0017	-0.0015	-0.0015
	(0.0004)***	(0.0004)***	(0.0004)***	(0.0004)***	(0.0004)***	(0.0004)***
	t = -5.0186	t = -4.8308	t = -4.3658	t = -4.1855	t = -3.6715	t = -3.6669
DTV	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.0000)***	(0.0000)	(0.0000)	(0.0000)	(0.0000)***	(0.0000)*
	t = -3.0763	t = 0.2370	t = 1.3219	t = 0.6284	t = 3.0516	t = 1.7660
Constant	0.0105	0.0096	0.0088	0.0083	0.0068	0.0071
	(0.0021)***	(0.0021)***	(0.0021)***	(0.0021)***	(0.0021)***	(0.0021)***
	t = 5.0026	t = 4.5808	t = 4.1974	t = 3.9489	t = 3.2403	t = 3.3892
Obs.	1,529	1,528	1,527	1,526	1,525	1,524
R2	0.0210	0.0199	0.0180	0.0157	0.0187	0.0145
Adjust. R2	0.0152	0.0141	0.0122	0.0098	0.0128	0.0086
Residual Std. Error	0.0081 (df = 1519)	0.0081 (df = 1518)	0.0081 (df = 1517)	0.0081 (df = 1516)	0.0081 (df = 1515)	0.0082 (df = 1514)
F Statistic	3.6135*** (df = 9; 1519)	3.4231*** (df = 9; 1518)	3.0878*** (df = 9; 1517)	2.6806*** (df = 9; 1516)	3.2008*** (df = 9; 1515)	2.4679*** (df = 9; 1514)

Note: *p<0.1; **p<0.05; ***p<0.01

Econometric Testting:

Since Model 2 has been highlighted as the best model to represent the data and answer the research question, various econometric tests must be conducted to ensure accuracy and detect and rectify any econometric errors. First, a correlation matrix was administered to determine if there was any correlation between the data (refer to Table 6).

Table 6: Pearson Correlation Coefficient Matrix

Variables	***MCD***	***WEN***	***SBUX***	***CMG***	***SLANG***	***MEME***	***TREND***	***CEBEB***	***ATR***	***EPS***	***INFLTN***	***INTRST***	***AR***	***DTV***
MCD	1													
WEN	0.330	1												
SBUX	0.325	0.327	1											
CMG	0.340	0.342	0.336	1										
SLANG	0.013	0.078	0.083	0.171	1									
MEME	0.020	0.017	0.094	0.095	0.154	1								
TREND	0.035	0.044	0.004	0.013	0.144	0.093	1							
CELEB	0.002	0.042	0.023	0.017	0.060	0.066	0.052	1						
ATR	0.520	0.632	0.533	0.612	0.084	0.003	0.012	-0.032	1					
EPS	0.294	0.373	0.350	0.999	0.173	0.095	0.015	-0.018	0.604	1				
INFLTN	0.019	0.014	0.043	0.011	-0.036	0.036	0.008	0.002	0.035	0.011	1			
INTRST	0.016	0.002	0.165	0.143	0.107	0.059	0.051	-0.013	0.008	0.151	-0.120	1		
AR	0.001	0.001	0.011	0.012	0.008	0.007	-0.003	0.010	0.008	0.011	0.021	-0.113	1	
DTV	0.053	0.063	0.735	0.605	-0.117	0.090	0.006	0.001	0.070	0.612	-0.070	-0.225	0.051	1

The vast majority of Table 6 shows a weak correlation between variables. As for the variables in Model 2, there is no linear relationship between them, as none of the Pearson Correlation Coefficients are greater than 0.8 or less than -0.8.

To ensure the reliability of Model 2, this research used the Variance Inflation Factor (VIF) to detect any potential issues with multicollinearity within the model (view Table 7). All variables showed no sign of multicollinearity; they were well below five. EPS is the only cause for concern with the VIFs, as it is the closest value to five. However, after taking the variable out of the equation to attempt to eliminate any multicollinearity, there was little to no change in the values. So, to avoid any omitted variable problem, EPS was left in the equation.

Table 7: Variance Inflation Factor Values:

SLANG	MEME	TREND	CELEB	ATR	EPS	INFLTN	INTRST	DTV
1.082	1.046	1.032	1.011	3.075	4.941	1.030	1.084	3.196

The Ramsey RESET Test was run on the model to check for general specification errors. The Ramsey RESET Test's null hypothesis is that the model's functional form is correctly specified, implying that additional terms do not significantly explain the variation in the dependent variable. The alternate hypothesis states that the model suffers from specification error, indicating that there could be an omitted variable problem. As shown in Table 8, the p-value for the RESET test is 0.00442. Since the p-value is less than 0.05, the null hypothesis is rejected, which means there is some specification error in this Model, most likely due to omitted variables. This result is likely due to the vast number of uncontrolled reasons people make their decisions. While this does not negate the research findings, the conclusions should be taken with caution.

Table 8: Ramsey RESET Test Output

Test Statistic	p-value
5.4411	0.00442

The next econometric test this research runs is for serial correlation. The Breusch-Godfrey (BG) test detects serial correlation within the residuals. The null hypothesis for this test states that there is no serial correlation within the residuals in the regression (i.e., the residuals are uncorrelated). The alternative hypothesis says that there is serial correlation present within the residuals. Based on the output in Table 9, the p-value is 0.4352, which is greater than 0.05, so the null hypothesis is not rejected, meaning there is no evidence of serial correlation present within the model (see Table 9).

Table 9: Breusch-Godfrey Test Output

Test Statistic	p-value
0.60903	0.4352

The final econometric test used in this research was the White Test for heteroskedasticity. The null hypothesis for the White Test states that the variance of the errors in the regression is constant across all levels of the independent variables, indicating homoskedasticity. Conversely, the alternative hypothesis suggests that the variance of the errors varies across all the levels of the independent variables, indicating heteroskedasticity. Based on the output from the white test in Table 10, the p-value is 2.37e-37, which is less than 0.05, meaning this model rejects the null hypothesis, resulting

in heteroskedasticity being present in the model. This is also most likely due to an omitted variable problem. Yet, it can be corrected using the Coefficient Test function (coeftest) in R, as this function will compute robust standard errors or standard errors adjusted for heteroskedasticity (see Table 10).

Table 10: White Test Output

Test Statistic	p-value
309	2.37e-37

After correcting for heteroskedasticity and creating robust standard errors with Model 2, the standard errors slightly increase, as the robust standard errors provide a more accurate estimate of the uncertainty associated with the coefficients. Still, the significance of SLANG remains, showing its impact on abnormal returns within a company (see Table 11).

Table 11: Coefficient Test Output

	Dependent Variable:	
Variables:	AR1	coefficient test
	(2)	(2)
SLANG	0.0024	0.0024
	(0.0010)**	(0.0014)*
	t = 2.3356	t = 1.6745
MEME	0.0004	0.0004
	(0.0013)	(0.0010)
	t = 0.3290	t = 0.4479
TREND	0.0016	0.0016
	(0.0028)	(0.0013)
	t = 0.5629	t = 1.2236
CELEB	-0.0016	-0.0016
	(0.0015)	(0.0016)
	t = -1.0324	t = -0.9828
ATR	-0.0036	-0.0036
	(0.0035)	(0.0045)
	t = -1.0234	t = -0.7931
EPS	0.00002	0.00002
	(0.00002)	(0.00003)
	t = 0.9524	t = 0.6710
INFTN	0.0001	0.0001
	(0.0005)	(0.0005)
	t = 0.1101	t = 0.1298
INTRST	-0.0019	-0.0019
	(0.0004)***	(0.0005)***
	t = -4.8308	t = -4.0279
DTV	0.0000	0.0000
	(0.0000)	(0.0000)
	t = 0.2370	t = 0.1244
Constant	0.0096	0.0096
	(0.0021)***	(0.0025)***
	t = 4.5808	t = 3.8802
Obs.	1,528	
R2	0.0199	
Adjust. R2	0.0141	
Residual Std. Error	0.0081 (df = 1518)	
F Statistic	3.4231*** (df = 9; 1518)	

Note: *p<0.1; **p<0.05; ***p<0.01

Conclusion:

This research posed the question, how does incorporating pop culture in a company's Twitter feed impact the company's stock price? It was hypothesized that when a company leverages pop culture references in its Twitter feeds, this increases brand awareness and reaches new audiences, potentially attracting investors to the company's stock, which can lead to increased stock returns for the given company. To answer this question, this research required extensive qualitative and quantitative analysis. Creating a detailed codebook with clear definitions of each type of pop culture reference and what it looked like on Twitter was a necessary first step for the research. Abnormal returns and other control variables also needed to be calculated manually using the Fama French 3 Factor Model and financial statements of the various fast-food companies. When combining the qualitative and quantitative data in the regression, as well as running econometric testing, it was found that pop culture references, particularly slang, do, in fact, impact stock return.

According to Pemberton (2016), companies spend almost 12% of their yearly income on marketing. However, marketers often face difficulty finding the right balance between cost-efficiency and effective marketing. In this regard, this research has suggested that incorporating relevant slang usage within the content posted on social media platforms, specifically Twitter, can help marketers establish a relatable relationship with their audience. By taking advantage of this approach, marketers can make informed decisions in allocating their resources and revenue to ensure that their marketing efforts are both cost-efficient and effective. Based on this research, as investors see success in the marketing tactic of using pop culture references, they can become more inclined to buy that

company's stock, increasing the company's abnormal returns. This research sheds light on the impact incorporating slang in social media posts can have on the financial performance of a business. This emphasizes the importance of marketers understanding the implications of using such language and its potential effects on them in the stock market.

While this research has provided valuable insights into the impact of incorporating slang in Twitter posts on market performance, specific limitations must be acknowledged. Firstly, the variables used in this research vary in how often they could be calculated. As abnormal returns were calculated daily, variables like EPS, ATR, and Inflation rate were only given or calculated quarterly or monthly. This means there is some repetition within those variables in the dataset. Future research should obtain daily data on these variables or find suitable substitutes with daily data. Second, the abnormal return lag can only be delayed by 24 hours. In future research, instead of adding dummy variables based on what day the company posted the reference, researchers could add dummy variables based on what *time* of day they posted. This would enable abnormal returns to lag for a different number of hours, allowing researchers to determine precisely how long it takes for the usage of the pop culture reference to become significant and how long that impact lasts.

Additionally, researchers would need to calculate hourly abnormal returns to see how quickly the market internalizes information and exactly how long the effect of the pop culture reference on stock return lasts. Finally, if this research were given more time, control variables would be added to account for the number of followers for each company and the amount of Twitter activity for each post. Each of the four companies varied in how many followers they had and how much activity was on each tweet. This could help avoid omitted variable problems and potentially eliminate specification errors in the model.

The time spent on this research was extensive and intense. Reflecting on the journey of conducting this research has been both challenging and rewarding. The extensive and intense effort invested in this project has been unmatched, pushing me to delve deeper into the complexities of social media marketing and stock market dynamics. There were many setbacks along the way, as this research initially looked at the usage of slang in ad campaigns in the beer industry. Due to the lack of objectivity in what was said in the advertisements and Anheuser-Busch not going public until 2009, the medium of commercials was dropped, and the beer industry was also excluded from this project. The most challenging part of this project was the qualitative analysis portion, which also taught me the most. The codebook was made from scratch, pulling existing definitions for some types and creating definitions entirely for others. Determining if the references existed in a tweet was extremely rigorous.

Throughout these challenges, I gained a deeper understanding and appreciation for the complexities of research methodology. The setbacks and long hours of work required adaptability and resilience. Each hurdle presented an opportunity for growth and learning, ultimately enriching my understanding of the research process. With the right mindset to learn, these traits have become extremely useful in my personal and academic life. Looking back, I am thankful for my mentors who walked me through this, and I thank family and friends who supported me the entire way.

Appendix A:

Slang- a type of language that consists of words and phrases that are regarded as very informal, are more common in speech than writing, and are typically restricted to a particular context or group of people" (Fowler, 2015).

Different types are defined:

Fresh & Creative

In fresh and creative slang, slang words and terms are imaginative, informal, or new vocabulary. It can also include up-to-date words or terms people are unfamiliar with. Words that fall under this category are words like *tea.* Where *tea* refers to gossip (Fanbytes, 2022), another example would be *bussin'*. *Bussin' usually describes* something as awesome or great, specifically good foods or meals (Fanbytes, 2022).

Description & Names

Description and names are a type of slang that is used to describe someone or something. These slang words or terms already exist and take on another meaning. An example of descriptions and names would be the term *Karen, w*hich describes someone who is usually a female to be highly unreasonable, especially in public places (Fanbytes, 2022). Another example would be the term *pick me girl, w*hich describes a female constantly looking for attention (Fanbytes, 2022).

Street Grammar

Street grammar is a form of slang where common words are misspelled or jumbled together, and, in some cases, correct grammar is forgotten (Cornish, 2011). Street grammar is commonly used in texting and very informal or comfortable settings. These are words like *ya* (yeah), *gotcha* (I got you) and can be found in slogans like *Got milk?* Or McDonald's,

I'm lovin' it, *w*here the slogans ditch correct grammar to sound more informal (Cornish, 2011).

Clipping

Clipping is when words have been "clipped" or partially shortened but still hold the same meaning as the original word (Budiasa, 2021). Examples of this are slang words like *fit* (outfit) or *rents* (parents).

Abbreviations

Abbreviations are a common form of slang that is usually found in text. Many abbreviations in slang are very informal phrases, such as ILY (I love you), BRB (be right back), and TBH (to be honest) (Fanbytes, 2022).

What slang is not: if words repeat the same letter(s) (ex. Laterrrrr, wwwhhaattteverr)

Things that are supposed to be capitalized but are not places where punctuation is supposed to go, but they are not there. Any letters/characters jumbled together that do not signify a word/ term. Any makeup of words that a brand has trademarked, such as McDonald's McGriddle® or Wendy's Baconator®.

Meme- a unit of cultural information that spreads rapidly through the internet and can take various forms, including images, videos, or GIFS. Memes provide an account of reality in a funny and relatable way. Memes can convey humor, satire, or commentary on things that happen in society. The primary purpose of a meme is to portray relatability, whether that be about a specific action or emotion about something.

What memes are: Memes will have either an image or video attached with a text. The text sets up a scenario that can happen in real life and is usually followed by an exaggerated photo/video that portrays the reaction/ effect to the scenario. Memes are meant to target users within a specific demographic, as the photo in the meme will usually attempt to make the reaction relatable or humorous to the users it is trying to target.

What memes are not: Anything that does not set up a scenario and the effect of said scenario is not counted as a meme, or anything that does not attempt to create a feeling of relatability or humor within the text and photo. Any post that has text that literally describes what is happening in the photo, video, or GIF also does not count.

Internet Trends- Patterns of behavior or content consumption that gain widespread popularity within online communities over a short time period, shaping online discourse and digital phenomena. They emerge organically, propelled by user-generated content or influential endorsements. Internet trends reflect similar interests and preferences of users at a given time.

What Internet trends are: Internet trends can take various forms, such as viral dances, challenges, or topics of discussion. Trends tend to go mainstream quickly. Internet users have at least some levels of common knowledge about the trend. Digital trends can evoke a feeling of wanting to attempt and post your own version/ opinion of what is trending.

What Internet trends are not: Internet trends are not static or permanent. Although they are popular, trends do not last for long periods of time on the internet. They are not cultural movements or established traditions and typically lack longevity.

Music & Entertainment- Media users will use these characteristics of music and entertainment to help describe what they are trying to post in an attempt to connect and relate with what other users are listening to/ watching right now. This also includes celebrities, which are people who have significant influence and serve as cultural touchstones. These people can be actors, musicians, athletes, social media influencers, and other public figures who gain widespread attention. They serve as trendsetters, driving consumer preferences, and can shape societal norms. Celebrities can both serve as entertainment icons and influential cultural forces.

What Music & Entertainment looks like: Posts that have song lyrics and melodies, quotes from books, characters, or plots being referenced from TV shows and movies are all different types of pop culture references found in the media. The goal of using said references is to use them in a way where the user posting it can alternate it to connect what they want to portray with a music and entertainment reference that viewers of the post will understand. *For example, if a company wanted to reference the new Barbie movie, they might reference the characters Barbie or Ken from the movie or use the font the title of Barbie was in for a promotional deal. For celebrities, they are seen as people who could endorse, partner with, and sponsor brands on a given brand's social media page. One will often see celebrities collaborating with a brand in different posts, usually mentioning them by name or tagging them in the post. These people have their own mass following and do not need the company to succeed.*

What Music & Entertainment doesn't look like: These are not jingles or characters that the brand creates themselves. If a brand creates a jingle or character that is used solely to promote the brand and references them in their post, that does not count as a pop

culture reference. For example, if Flo, the famous Progressive Insurance marketing Icon, is posted on Progressive's Twitter page, then it does not count as a pop culture reference. Celebrities are not everyday people who work for the company to promote it. Rather than working with the company to promote it. Such as Jake from State Farm. People in the media who do not gain significant attention from people are not counted as celebrities. Celebrities are also not fictional characters, such as Jake from State Farm and other celebrities who would only be popular.

Appendix B:

Respondent 1's Answers:

date:	she added it	SLANG	MEME	TREND	CELEBERTY			SLANG	MEME	TREND	CELEBERTY
	i added It					24-Mar		I			
	both added it					23-Mar		I	I		
22-Feb						16-Mar					
24-Feb			I			10-Mar					
21-Feb		?				7-Mar					
21-Feb						28-Feb			I	I	
20-Feb						21-Feb			?		
15-Feb		I	I			14-Feb					I
14-Feb			?			12-Feb					I
13-Feb				I		6-Feb		I			
9-Feb		I			I	2-Feb		I			
8-Feb			I			31-Jan			I		
4-Feb						26-Jan					
30-Jan		I				17-Nov					
14-Nov		I		I		17-Nov			I		
30-Oct		?	I			10-Nov					
3-Oct		I		I		10-Nov					
18-Sep						10-Nov					
14-Sep					I	2-Nov					
13-Sep						27-Oct			I		
12-Sep						24-Oct					
6-Sep		I	I			6-Oct					
22-Aug						3-Oct		I			
17-Aug						30-Sep					
16-Aug						27-Sep					
2-Aug		I	I	I		27-Sep		I			
26-Jul						23-Sep		I			
26-Jul						21-Sep					
11-Jul			I			15-Sep					
6-Jul		I	I			8-Sep					
27-Jun			I	I		7-Sep		I			
14-Jun			I			1-Sep					
14-Jun		I				31-Aug					
14-Jun		I				30-Aug					
12-Jun		I	I			23-Aug		I			
6-Jun						18-Aug					
5-Jun		I				16-Aug					
5-Jun				I		11-Aug					
5-Jun						9-Aug		I			
31-May		I				9-Aug					
23-May						4-Aug		I			
18-May						2-Aug					
9-May						28-Jul					
28-Apr						27-Jul					
27-Apr		I				21-Jul					
21-Apr						14-Jul					
17-Apr		I				12-Jul		I			
12-Apr						6-Jul		I			I
27-Mar			I								

Respondent 2's Answers:

date:	he did It	SLANG	MEME	TREND	CELEBERTY
24-Feb	I did it		x		
22-Feb		x		x	
21-Feb				x	
21-Feb					
20-Feb				x	
15-Feb		x	x		
14-Feb				x	
13-Feb			x		
9-Feb		x		x	
8-Feb			x		
4-Feb					
30-Jan		x		x	
14-Nov		x		x	
14-Nov					
30-Oct			x		
3-Oct				x	
18-Sep					
14-Sep					x
14-Sep		x			
13-Sep					
12-Sep					
6-Sep		x	x		
22-Aug					
17-Aug		x			
16-Aug					
2-Aug		x		x	
26-Jul					
26-Jul					
26-Jul					
11-Jul			x		
6-Jul		x			
27-Jun			x	x	
14-Jun			x		
14-Jun		x			
14-Jun		x			
12-Jun		x		x	
6-Jun			x		
5-Jun					
5-Jun					
5-Jun					
31-May					
23-May					
18-May		x			
9-May				x	
28-Apr					
27-Apr					
27-Apr		x			
21-Apr					
19-Apr		x			
17-Apr		x			
12-Apr					
27-Mar			x		
24-Mar		x			
23-Mar		x	x		
16-Mar					
10-Mar				?	
7-Mar					
28-Feb				x	
21-Feb				x	
14-Feb					x
12-Feb					x
6-Feb		x		x	
2-Feb		x			

Respondent 3's Answers:

date:	he addied it	SLANG	MEME	TREND	CELEBERTY
	I added it				
	both added it				
24-Feb			x		
22-Feb		x			
21-Feb					
21-Feb					
20-Feb					
15-Feb		x			
14-Feb			x		
13-Feb					
9-Feb		x			x
8-Feb			x		
4-Feb					
30-Jan		x			
14-Nov		x			
11/14/2023 (part of a thread)					
30-Oct			x		
3-Oct		x		x	
18-Sep					x
14-Sep					x
9/14/2023 (part of a thread)		x			
13-Sep					
12-Sep					
6-Sep		x	x		
22-Aug					
17-Aug					
16-Aug					
2-Aug		x			
26-Jul					
26-Jul					
26-Jul					
11-Jul			x		
6-Jul		x			
27-Jun					
14-Jun				x	
6/14/2023 (part of a thread)		x			
6/14/2023 (part of a thread)		x			
12-Jun		x			
6-Jun					
5-Jun		x			
5-Jun					
5-Jun					
31-May					
23-May					
18-May			x		
9-May					
28-Apr					
27-Apr					
4/27/2023 (part of a thread)		x			
21-Apr					
19-Apr					
17-Apr		x			
12-Apr					
27-Mar			x		
24-Mar		x			
23-Mar		x	x		
16-Mar					
10-Mar					
7-Mar					
28-Feb		x	x		
21-Feb					
14-Feb					x
12-Feb					x
6-Feb		x			
2-Feb		x			

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