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SOCIAL MEDIA INTERACTION OF FOREIGN USERS IN GETIR OF TURKEY'S SECOND UNICORN: TWITTER SENTIMENT ANALYSIS

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ABSTRACT

Social media interactions, the digital form of classical word-of-mouth marketing (AAP), used to strengthen the business-brand image, have become one of the most critical evaluation criteria today. It is known how effective social media is in maximizing brand awareness and sales. For this purpose, the social media content of the users abroad of Getir, Turkey's largest unicorn company, was analyzed. In this direction, the contents of the tweets posted in English from July 1, 2021, when Getir was launched to the European market in general, until July 1, 2022, were analyzed. Python programming language was used for data collection, and R language was used for data analysis. Social network analysis (SAA) of the most used words in the context of positive, negative, anger, anticipation, disgust, fear, joy, sadness, surprise, and trust of the emotional states of the tweets posted for Getir was performed. Social network analysis (SAA) was conducted in the context of positive, negative, anger, anticipation, disgust, fear, joy, sadness, surprise, and trust of the most used words in the emotional states of tweets for Getir. As a result of the analysis, it was determined that the positive emotions of the users towards Getir were higher than the negative emotions. It has been determined that the company's development performance and social media analysis results are in parallel.

Keywords: *Getir Unicorn, Twitter Sentiment Analysis, Social Media Analysis.*

Jel Codes: *M15, L26, L86, O35.*

1. INTRODUCTION

With the development of information and communication technologies, there have been changes in people's communication interactions. This change has caused marketing and promotional activities to be moved to social media tools, one of today's most popular communication tools. Social media tools are essential because they allow brands to interact with their customers 24/7, regardless of time and place. This situation makes the importance of social media tools, and the data obtained a crucial competitive element in knowledge management.

The startup, "to start," is used for entrepreneurship in activating a business or action in the sense of business. Uniqueness, difference, and being different from other businesses is the basic idea behind

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the startup business. Thus, it can adapt and change at any time. Developments in information and communication technologies have triggered the emergence of startup business ideas. Cybertopia, synonymous with the emergence of startups, refers to everything related to business technology, the web, the internet, and similar businesses (Arifianto and Veritia, 2022). Startups are small companies that start from an innovative idea using technology and become sustainable, solid, and solvent technological and innovative companies with time and experience (Saura et al., 2019). The term unicorn refers to a category of highly creative, high-growth startups valued at $1 billion or more within a few years of their inception (Rodrigues and de Noronha, 2021).

Successful innovation of enterprises stimulates not only the industry's growth but also the creation of new jobs that contribute to national economic development. For this reason, many countries have tried encouraging innovative startup companies with various policies (Chung et al., 2021). In this context, Startups show high potential in the medium and long term with their active contribution to the sustainable economic development of a country (Voicu-Dorobanţu et al., 2014). In a global ecosystem where new technologies and processes are produced every day, it is essential to identify the technologies that will determine what people will do in the coming years, as well as know the key factors that can make a business successful (Saura et al., 2019)

2. SOCIAL MEDIA

As of January 2022, 67.1% (5.31 billion) of the 7.91 billion world population have a smartphone, 62.5% (4.95 billion) have internet access, and 58.4% (4.62 billion) are active social media users. When the global user situation is analyzed, it is seen that users spend 6 hours 58 minutes on the internet and 2 hours 27 minutes (35%) on social media daily. This situation also affected global social media advertising expenditures and was determined to exceed 150 billion dollars in 2021. When users' habits of discovering new brands, products, and services are examined, it is revealed that 27.6% of users find new brands, products, and services through social media advertisements, slightly different from 31.1% in TV advertisements. It has been determined that 31.7% of internet users obtain information about new brands by searching the internet (WeAreSocial, 2022). Users' increasing use of the internet and social media has made it a communication and marketing channel for brands.

Thanks to the interaction brought by the web 2.0 technology provided by the digital age, most brands and SMEs have a website and social media accounts such as Facebook, Twitter, Youtube, or Instagram. It is an inevitable fact that people include company activities in social media environments on mobile devices, regardless of time and place (Korkmaz, 2021; Demirbilek and Talan, 2018). Social media, also known as 'user-generated communication,' now represents a common source of information. This platform, where information control belongs to the customer, has changed companies' communication tools and strategies (Michaelidou et al., 2011). Twitter has a simple data distribution model that is highly efficient and scalable in the context of infrastructure. In addition, although Twitter

has a typical social network structure, it differs from other social networks in that it is mainly used for news dissemination (Antonakaki et al., 2021). Today, Twitter allows people to share information about events, issues, situations, people, brands, and products. This has made it a widely used, robust digital platform that allows them to interact and express their feelings or thoughts about any phenomenon.

Emotions are the feelings or opinions of an individual encapsulated within texts or images. These emotions play a vital role in the decision-making process for a business (Raza et al., 2021). Understanding how people feel about products or services is essential to the decision-makers who control the products or services and the consumers (Nistor et al., 2021). The existence of social media has changed not only how people connect with their social circles but also how they, as consumers, enter a market. Consumers rely on recommendations from acquaintances or close circles, i.e., friends and family, and opinions posted online. In this context, consumers are more likely to trust strangers for their advice on social media rather than corporate marketing campaigns (Indrawati and Putri, 2021). Idea mining or sentiment analysis is a field that analyzes people's views, feelings, evaluations, attitudes, and feelings toward entities and qualities expressed in written texts (Liu, 2020). Sentiment analysis helps companies measure the results of their advertising campaigns and product and service quality and fix problems before they become a liability to companies. This can help companies gain a competitive advantage (Trivedi and Singh, 2021).

Predicting which start-ups will ultimately succeed is critical for venture capitalists and governments worldwide, significantly when the benefits can multiply exponentially (Singhal et al., 2022). For this purpose, analyzing Twitter using the Social Network Analysis (SAA) approach can determine how fast the startup can grow and how well it can be recognized by the public or the market (Arifianto and Veritia, 2022). SAA uses dictionary-based, machine-learning-based, and hybrid approaches to sentiment analysis (Thakkar and Patel, 2015).

2.1. Literature Review

Firms can compare social media data with competitors' data, which helps the business identify weaknesses and new opportunities and modify existing social media strategies. In this context, Trivedi and Singh (2021) conducted a sentiment analysis from Twitter tweets of "Swiggy," "Zomato," and "UberEats," app-based food delivery companies operating in India. In the comparative study, it was determined that the overall performance of the companies was related to the positive emotions of the users. Still, Zomato received more positive reactions than the other two companies.

Hassan et al. (2021), people sentiments analyzed cryptocurrencies. With the keyword "cryptocurrency," the most recent 15,000 thousand tweets were collected. In the study conducted using the NRC emotion dictionary, 33.2% positive, 18% expectation, 15% joy, and 15% confidence resulted in positive emotions (Hassan et al., 2021).

Every tweet sent from 16:42, when football player Christian Dannemann Eriksen had a sudden cardiac arrest during the EURO 2020 football match between Denmark and Finland on 12 June 2021, to the end of June 2021, was analyzed. The study was diagnosed with the NRC emotion dictionary, and it was seen that the emotion rates in the tweets sent in the last 24 hours were 47.3% confidence, 45.1% expectation, and 42.7% joy (Fijačko et al., 2021).

Market sentiment was examined to predict the success of 57 ICOs supported by Initial Coin Offering (ICO) in the Australian and Singaporean markets. The sentiment analysis assessment is based on 68,281 tweets from 57 ICOs operating in the business services, cryptocurrency, entertainment, and platform industries. Support Vector Machines (SVMs), Logistic Regression (LR), Random Forest (RF), and Naive Bayes (NB) machine learning methods were used for sentiment analysis. With the Support Vector Machines (SVMs) classifier, it has been shown that it can accurately evaluate the tweets of Successful ICOs with a maximum accuracy of about 94.7% (Chursook et al., 2022).

In a different study, the problem of estimating the relationship between the firm and the customer and examining the immigration policy of the customer using social media analytics was analyzed. Twitter data was collected with the keyword "Starbucks" for 28 days between 02/07/2018 and 29/07/2018. As a result of the research, it shows that users switch to positive situations when the brand increases communication. In addition, when trust, communication, and homogeneity increase, it is seen that the user moves into favorable positions even if they migrate from where they are (Kafeza et al., 2021).

In another study, the tweets of 29 Indian politicians for crisis management during the COVID-19 pandemic were analyzed. Tweets were analyzed with the NRC Lexicon-based emotion detection approach, which categorizes positive, negative, anger, anticipation, disgust, fear, joy, sadness, surprise, and trust. The analysis showed that positive and trusting feelings were more intense in the context of all leaders (Kaur et al., 2021).

Sentiment analysis was used for airline companies to take precautions against social media crises. For this purpose, Twitter data from 12 US airline companies were collected between April 1 and June 30, 2017. When United Airlines experienced the critical "double ticket sale" incident on April 9, many people discussed it on social media and expressed anger toward United Airlines. Although some airline companies experienced a decrease in their emotional scores during the same period, Alaska Airlines, Southwest Airlines, and Virgin America recorded positive emotions throughout the period (Tian et al., 2021).

In general, research shows that customer interactions should be at the highest rate and positive in the growth and sustainability process of companies. Getir, which started its operations in Turkey and continued its growth by expanding abroad, became the country's second unicorn company. This study aims to analyze the social media sentiment of foreign users after the expansion of Getir. In this context,

with NRC Lexicon, a dictionary-based emotion categorizing tweets as “anger,” “anticipation,” “disgust,” “fear,” “joy,” “sadness,” “surprise,” “confidence,” “negative,” and “positive” with the text analysis of the tweets were aimed. In the study, sentiment analysis was made only from social media Twitter data; other companies’ financial and investment situations were not included.

3. RESEARCH AND METHODOLOGY

In classical dictionary-based analysis, we have a predetermined vocabulary in which each word has a value, regardless of whether the word's impact is positive or negative. Accordingly, each term is defined by separating the sentences, and then we assign the value given to the effect of that word according to our dictionary. In the most general case, the sum of these values will provide the emotional value of our particular sentence. This study is limited to text analysis of tweets using an emotion-based approach on the NRC Lexicon dictionary, which classifies the text as emotions such as “anger,” “anticipation,” “disgust,” “fear,” “joy,” “sadness,” “surprise,” “trust,” “negative” and “positive.”

The Canadian National Research Council (NRC) Word-Emotion Association dictionary provides ratings for positive and negative emotions and possible emotions in NRC. The NRC emotion dictionary consists of eight basic emotions (anger, anticipation, fear, surprise, sadness, joy, disgust, and trust) and two emotions (negative and positive), and a list of English words and their connotations. (Mohammad and Turney, 2013).

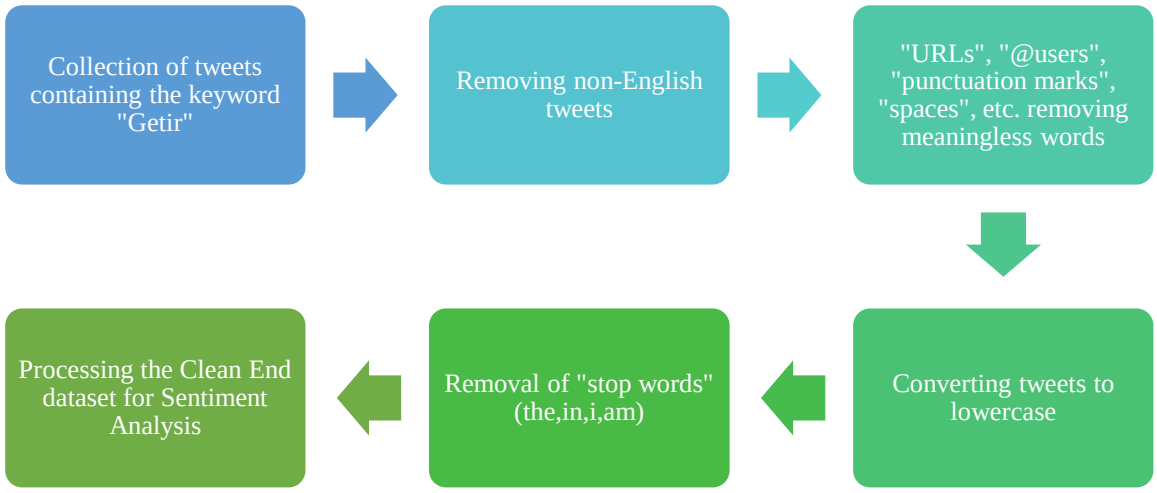
3.1. Data Collection

The tweets that make up the data were obtained using Python programming with the “pandas” and “snscrape” (Beck, 2020) libraries. The Snscrape library retrieves tweets containing people or specific keywords in desired date ranges. Tweets span one year, from July 1, 2021, to July 1, 2022, after the global launch of Getir. During this period, tweets in English posted using the hashtag "Getir" were collected. In the study, 26173 tweets were obtained, but after removing non-English tweets, the remaining 21467 were analyzed.

3.2. Data Preprocessing

Emojis were removed during preprocessing because the analysis was based on words and only included English emotion words in the NRC dictionary used in this research. Also, before analysis, non-essential tweets and gibberish such as retweets, punctuation, URL links, @users, spaces, symbols, and numeric codes were cleaned by text preprocessing for higher accuracy of results. Also, each tweet has been converted to a series of lowercase letters for data consistency. The data frame was then converted into a whole, and individual words were extracted using a word bag to remove commonly used stop words in any language, such as “the,” “an,” “I,” “am,” and “you.” R software packages such as “tm,” “stringr,” “Wordcloud,” “syuzhet,” “dplyr,” “tidyverse,” ”tidytext,” and “ggplot2” were used to analyze and visualize the data.

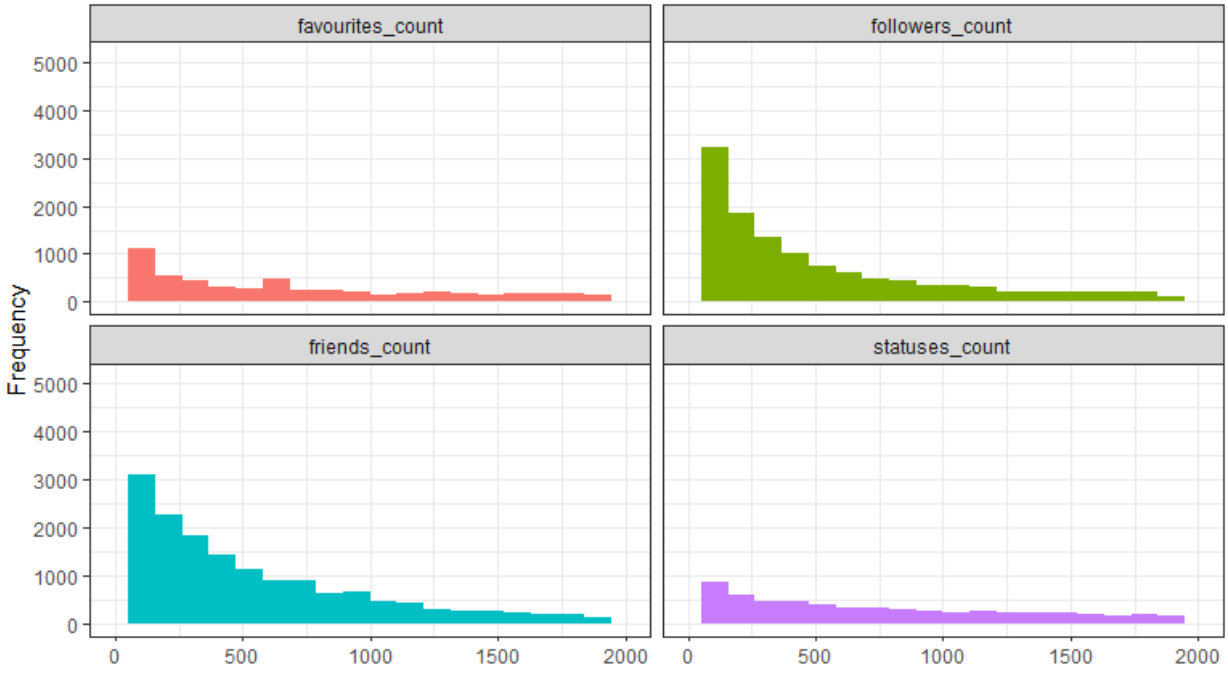
Figure 1. Twitter Data Processing Procedure



4. ANALYSIS AND FINDINGS

In this section, the analysis findings of the tweets written in English with the keyword "Bring" between July 1, 2021, and July 1, 2022, which is the data collection interval of the study, are included. Analyzes such as whether the user account of the tweeting users is real or a bot (fake account created by the software), tweets, retweets, and the number of friends made. Sentiment analysis was conducted for eight emotions with user tweets' positive and negative intensity.

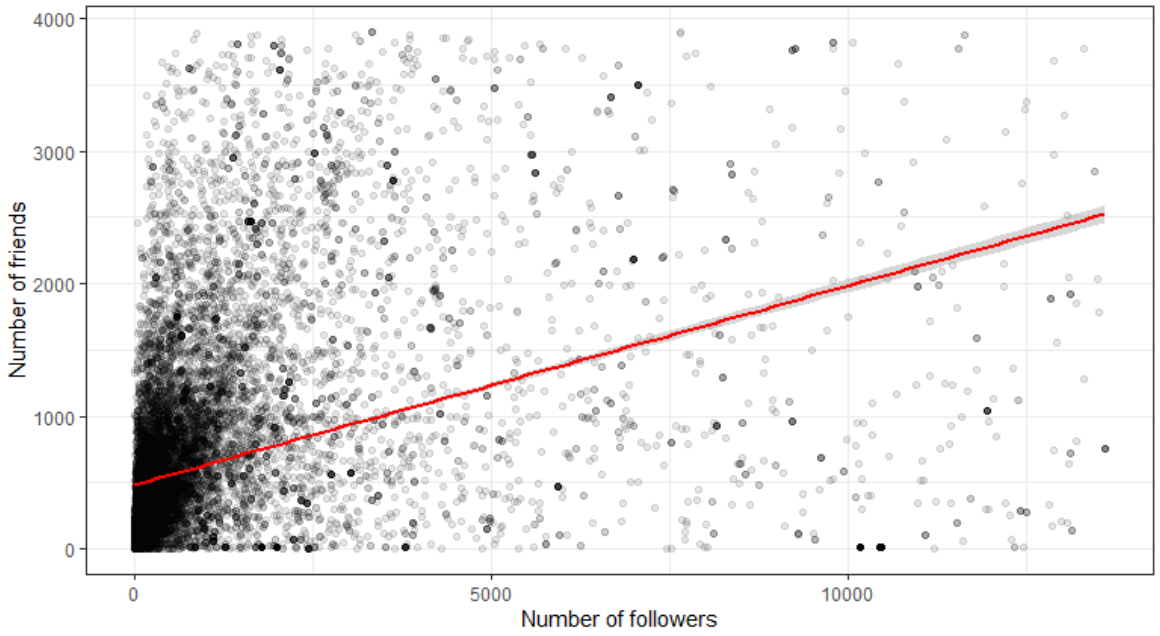
Figure 2. Number of Interactions of Users



To obtain beneficial results in sentiment analysis with Twitter data, the reliability of the collected data set must be ensured. In this respect, the statistical data of the account information of the users who

created the data set are confirmatory. In Figure 2, the number of favorites, the number of followers, the number of friends followed, and the number of tweets are analyzed. When the number of friends and followers of the users was examined, it was found that they were similar. It is seen that accounts with many followers increase from less to more in terms of number. This situation can be interpreted as there are no fake friends and followers. Similarly, the fact that there are hardly any accounts with zero friends and followers shows that the tweets are actual. The fact that the number of tweets and likes is close to the number of friends and followers shows that the account information is consistent.

Figure 3. The Relationship between the Number of Followers and the Number of Friends



When the graph in Figure 3 is examined, it is seen that the user density is below 1000 in the number of accounts followed and below 500 in the number of followers. In general, it is seen that the number of accounts followed by users is more than the number of followers.

Figure 4. The Relationship between the Number of Likes and the Number of Tweets

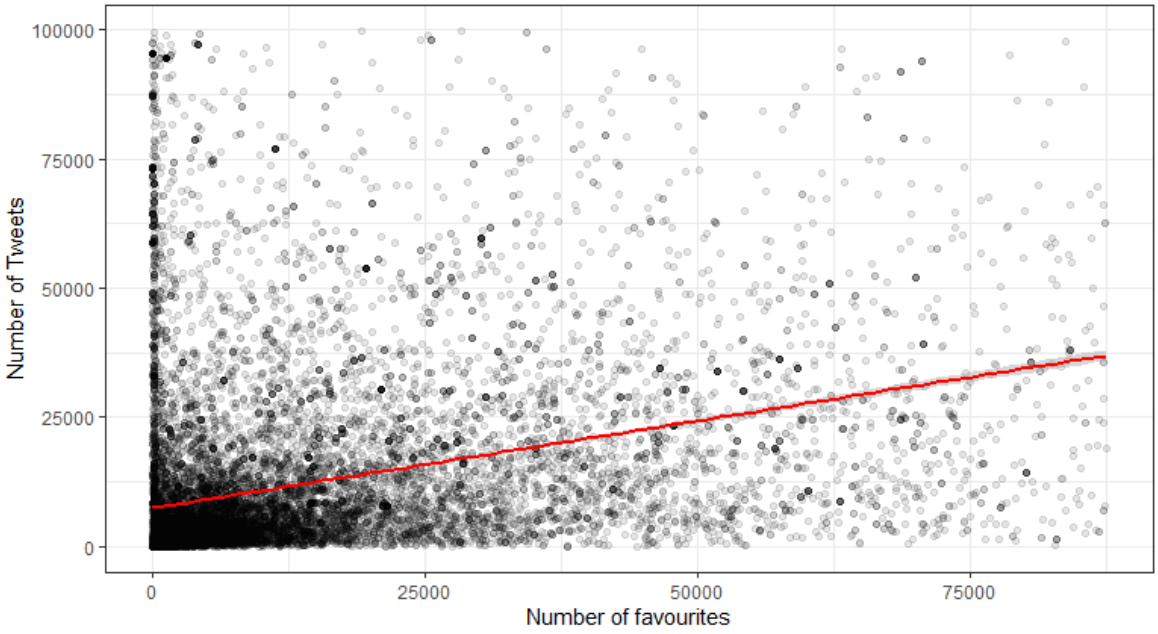
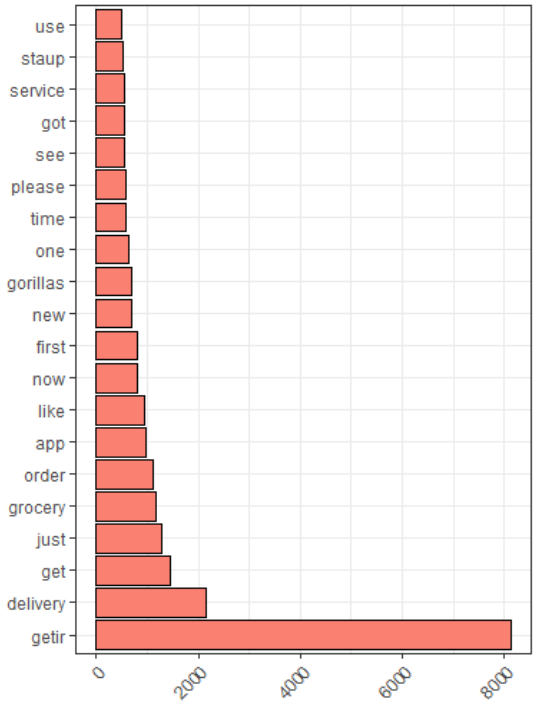


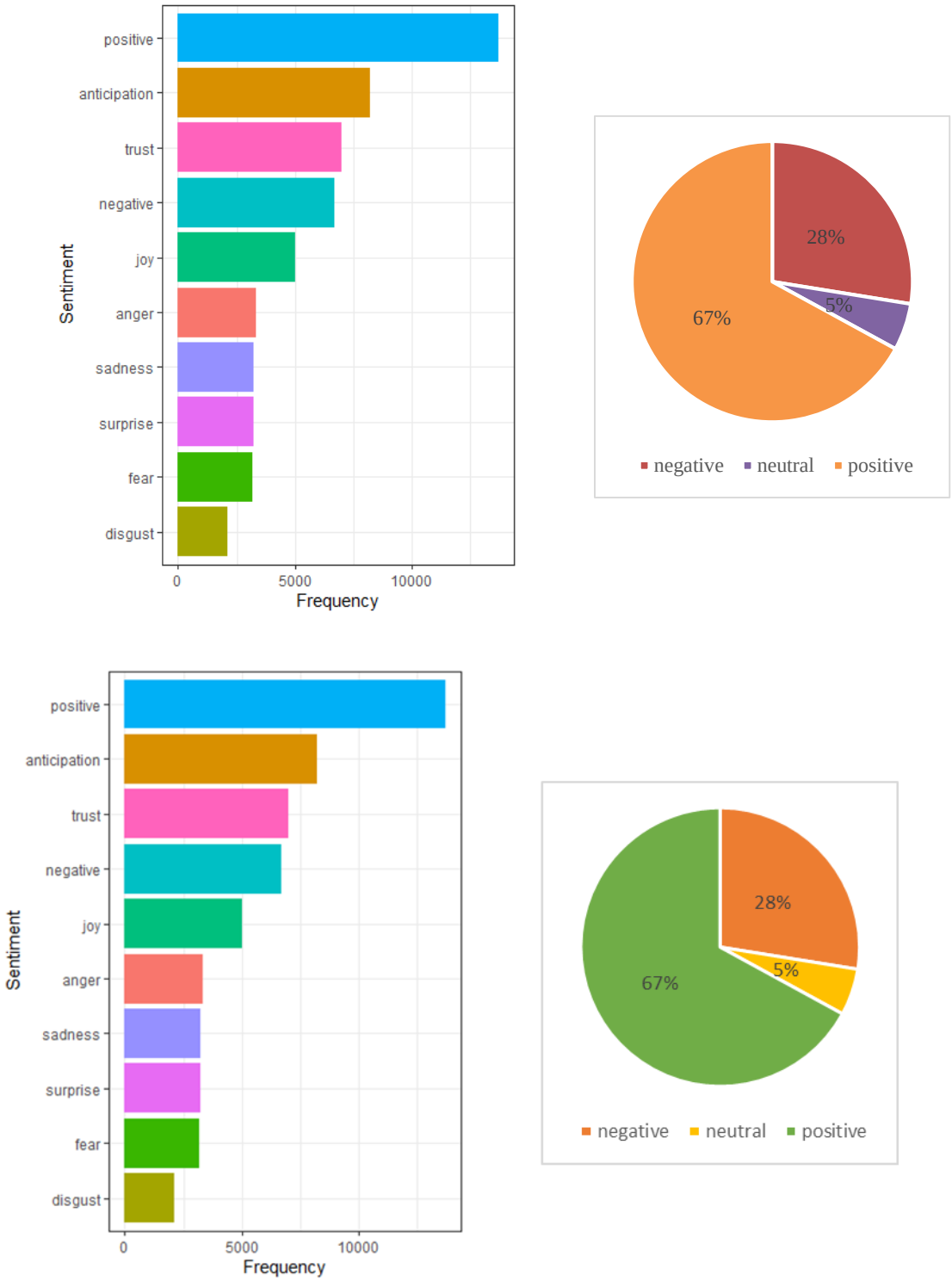
Figure 4 shows that the number of users' likes is higher than the number of tweets. It is also seen that there are users with a high tweet count but a low number of likes.

Figure 5. The Most Used Word Cloud and 20 Words in Tweets



When the words used in the tweets in Figure 5 and their densities are examined, it is seen that the words such as *delivery, get, grocery,* and *order* are used extensively for the Getir application. When the 20 most used words were examined, it was determined that there were intended for application usage and positive comments.

Figure 6. Emotion Ratios of Words and Tweets



When the sentiment analysis of all tweets sent for the Getir application in Figure 6 is evaluated as positive and negative, it is seen that the positive is twice as high. It has been determined that positive feelings towards Getir abroad are increased. It is seen that more positive tweets were posted in the "Anticipation," "Trust," and "Joy" categories of positive emotions. In the context of negative emotion categories, tweets stand out in the context of “Anger,” “Fear,” and “Sadness.”. The analysis of the

emotional states of the tweets was made using the NRC library. If the words in the tweets were positive, joy, anticipation, confidence, and surprise, they were given +1 point, and negative, fear, disgust, anger, and sadness were given -1 point. If the sum of the scores given for each tweet is equal to 0, it is neutral; if it is greater than 0, it is positive; and if it is less than 0, it is negative. As a result of these analyzes, 67% of the tweets were determined as positive, 28% as negative, and 5% as neutral.

Figure 7. The Sentiment Ratios of Words in Tweets Sent between July 01, 2021, and January 01, 2022

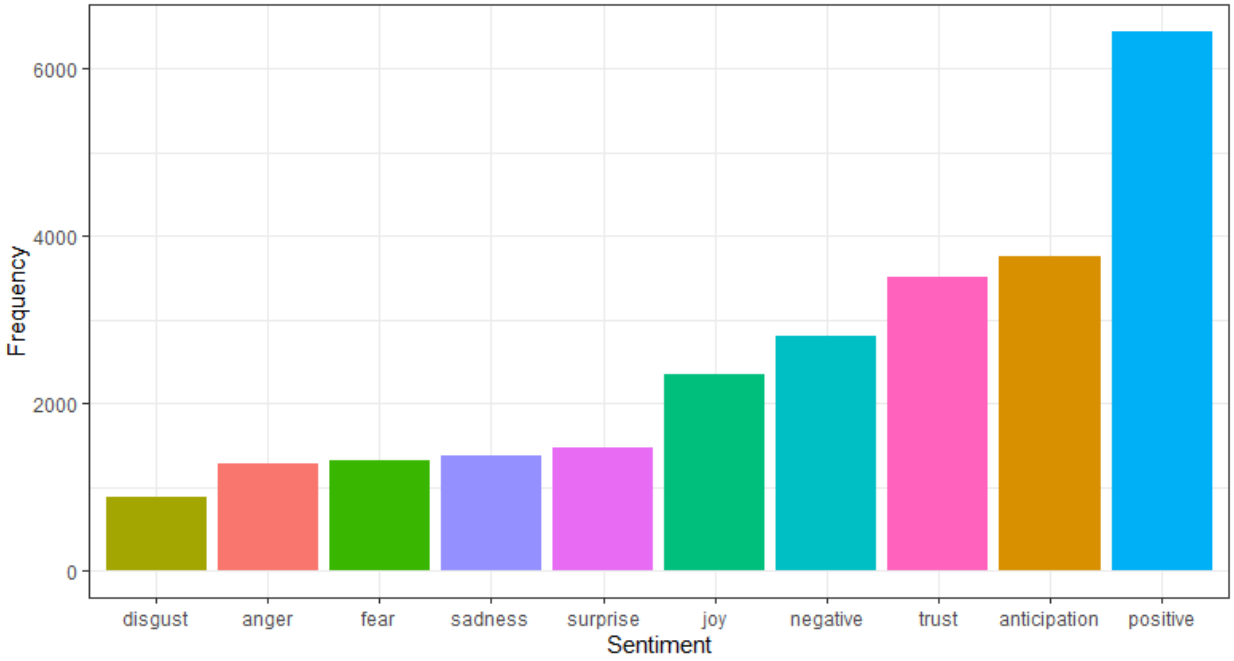
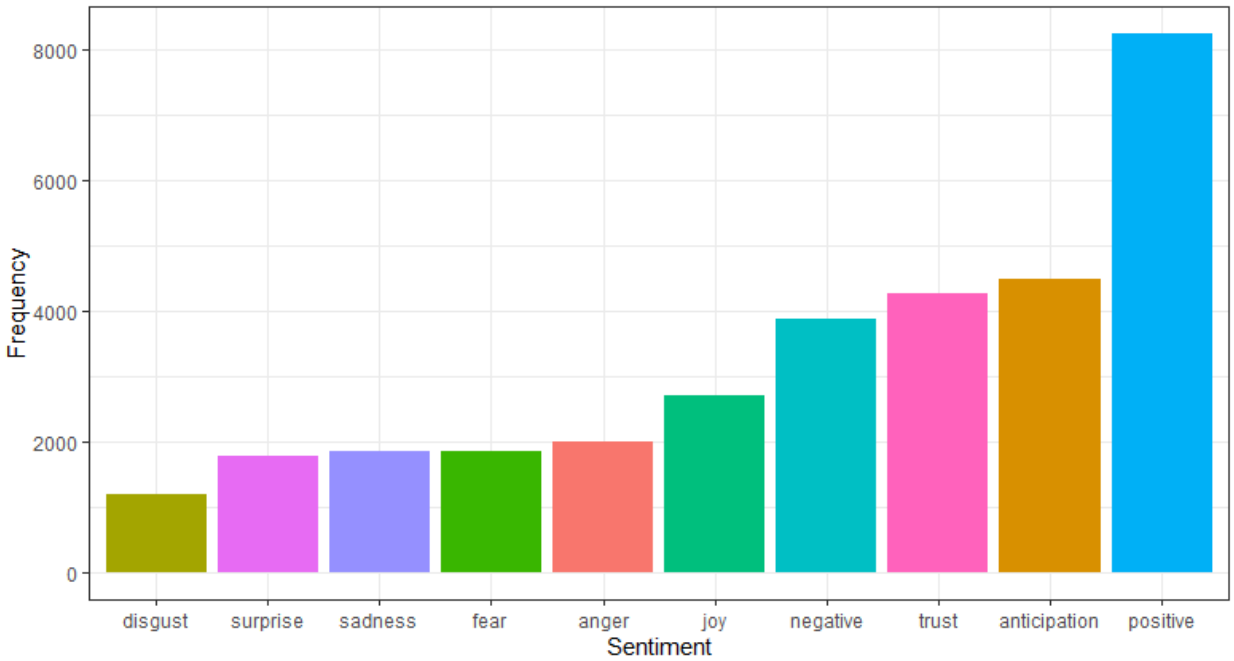
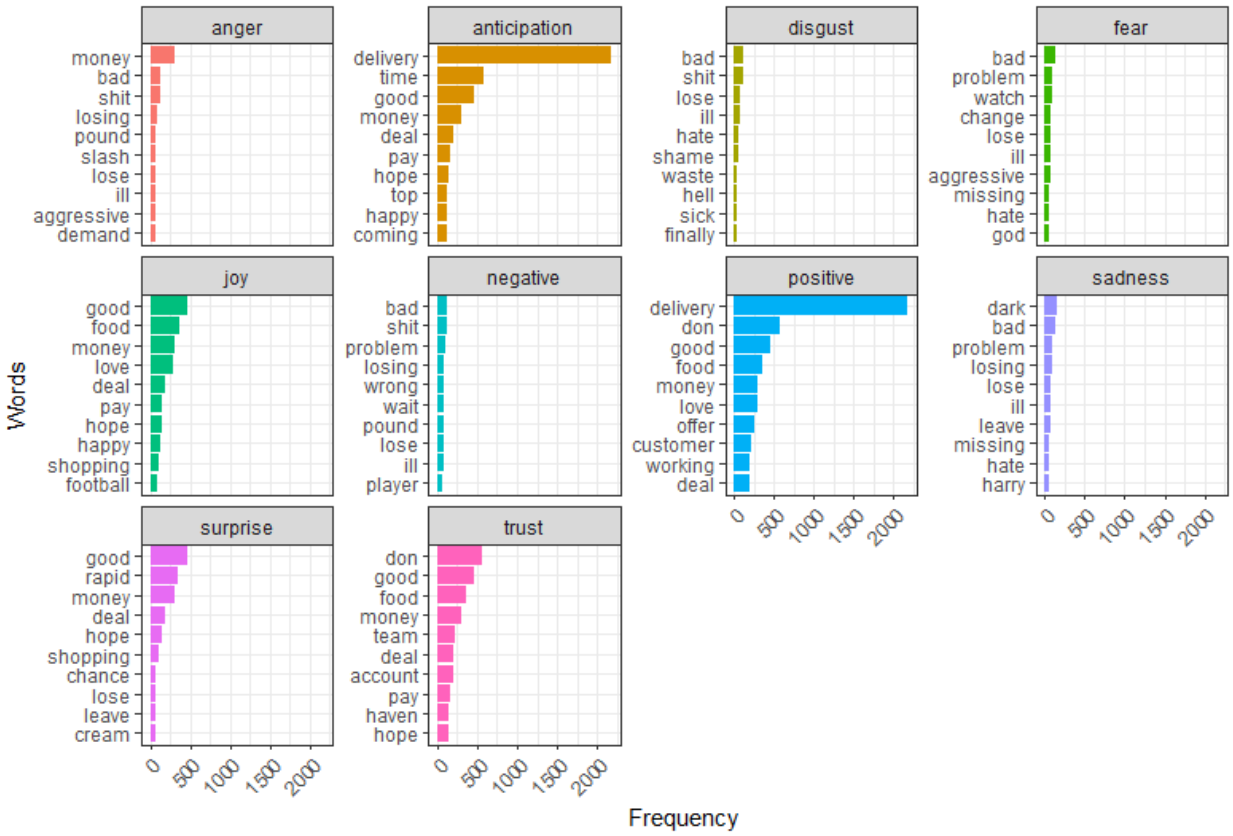


Figure 8. The Sentiment Ratios of Words in Tweets Sent between January 01, 2022 - July 01, 2022



When Figure 7 regarding the customer sentiment analysis between July 1, 2021, and December 31, 2021, when Getir company opened abroad, is examined, it is seen that positive emotions are higher than negative emotions. As can be seen in Figure 8, in the sentiment analysis conducted after 2022, it is seen that positive emotions are more elevated than negative emotions, even when the company increases the number of cities it serves in countries where it expands.

Figure 9. The Number of Uses of the Ten Most Used Words for Each Emotion



When the most used words in the context of emotion categories in Figure 9 are examined, it is seen that the words "delivery, good, food, rapid" are more prominent in positive categories. In contrast, the words in negative categories, "money, bad, problem," are used more intensely. The most used words in the Anticipation emotion category are delivery, time, goods, money, and deal; in the Trust emotion category, don, good, food, money, and team; in the emotion category, Joy is good, food, money, love, and deal and finally Surprise emotion is the most used words were good, fast, money, deal, and hope. When the emotional state categories are examined, it is seen that the most intense word usages are Anticipation, Trust, Joy, and Surprise, respectively. In this sense, it has been determined that the use of harsh words is in the category of positive emotion. When the intensity of use is examined, it is seen that negative emotions are much less than positive emotions.

Table 1. The 10 Most Used Bigrams and Trigrams in the "Getir" Twitter Dataset

	bigram	n	trigram	n
1	grocery delivery	667	off first order	193
2	first order	285	rapid grocery delivery	183
3	staup getir	266	delivery staup getir	132
4	delivery staup	227	grocery staup getir	106
5	off first	224	getir makes first	99
6	getir gorillas	216	makes first acquisition	99
7	rapid grocery	203	staup getir makes	99
8	get off	178	acquisition expand Spain	98
9	getir app	171	first acquisition expand	98
10	instant grocery	168	instant grocery staup	98

To identify the main themes in the bodies of tweets, it is essential to locate frequently used word groups such as bigrams and trigrams. In this direction, a maximum of 10 bigram and trigram word groups used in tweets sent with the keyword "*Getir*" are given in Table 1. When Bigram word groups are examined, it has been determined that the three most used word groups are "*grocery delivery*," "*first order*," and "*staup getir*." When these word groups are evaluated, it can be said that customers who use the Getir service interpret their first experience with the service provided. When trigram word groups are examined, they are complementary to bigrams, and there are user comments about the company's opening in Spain.

5. DISCUSSION AND CONCLUSION

Getir, which started to serve abroad in London, England, in January 2021, began to do in Amsterdam, the Netherlands, in May of the same year, in Berlin, Germany, in June, and Paris, France. In July 2021, it started its activities in Lisbon, Portugal, by purchasing BLOK, which operates in the field of fast delivery in Spain and Italy and continues under the name Getir. In this sense, Getir has become a global brand after July 2021.

As a result of the analysis, tweets of Twitter users participating in the research consist of positive words such as "delivery," "get," "grocery, "and "order." The absence of negative words in the first 20 most used words is similarly directly proportional to the fact that the positive emotion category contains approximately 2.5 times more content than the negative emotion category. This shows that Getir creates a positive impression on foreign users, and user-company interaction is good. The company continued its growth by starting operations in Chicago, the United States, in November 2021. As of August 01, 2022, Getir operates in 81 cities in Turkey, 13 cities in France, 12 cities in Germany, 12 cities in Italy, 15 cities in the Netherlands, 12 cities in Portugal, and 12 cities in Spain (Getir, 2022). It is seen that the increasing activity areas in the last year and social media analyzes are directly proportional. When Figures 8 and 9 are examined, it can be said that the company has increased its service network by

maintaining customer satisfaction according to social media analysis in countries where it has expanded abroad. In a similar study, Trivedi and Singh (2021) conducted a sentiment analysis of Twitter tweets from app-based food delivery companies "Swiggy," "Zomato," and "UberEats" operating in India. In the comparative study, it was found that the overall performance of the companies was related to the positive emotions of the users. This situation requires companies to analyze social media data consistently and systematically for competitive analysis and monitoring strategy by following their activities and competitors on social media.

When the bigram and trigram themes are examined, it is seen that the users comment on the Getir application and the services of the company and have their first experience. In addition, users' comments on expanding the company to new countries can be interpreted as the Getir application being appreciated.

Predicting which startups will be successful is an essential source of information for entrepreneurs. With the sentiment analysis, it will be possible to predict the company's success from the customer interactions of the startups. In this respect, it can be said that the positive customer interaction of Getir in the process of expanding abroad caused the company to increase its service network. In this context, it would be natural to expect growth in the company's year-end activities. In this case, it can be said that the company's year-end success estimation can be made by making sentiment analysis from the social media data of the companies.

In the study's limitations, better results can be obtained when the company's other investment and financial resources are added to future studies since it is only done on Twitter data. In addition, a comparative social media analysis can be made with the company's current competitors to reveal the current market situation within the scope of competition analysis.

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