Business Insight of Impossible Food

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Web Analytics

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12/13/2019

Executive summary

  The reason we created this project is understanding the public attitude towards impossible meat and related food products, the factors influencing those attitudes, and further developing the promotion and commercialization of impossible food products. In this project, we try to do web content analysis based on sentiment and text analysis.

  Among the various types of impossible food, we grabbed data related to "beyond burger", " impossible burger", and "impossible whooper". The data consists of tweets collected from Twitter with API authorization, posted in two separated time scales. After collecting data and saving them into CSV files, we cleaned them first and read them by pandas. Using NLTK and TextBlob library, the attitude value for each tweet can be executed.

  At first, we categorized the data: "positive", "negative", and "neutral" to observe the brief distribution by pie charts. To make the result more precise, the numerical attitude value of every tweet is applicable: -1 represents an extremely negative opinion, 0 means neutral opinion and 1 means an extremely positive opinion. Next is calculating the mean values separately from those two libraries to evaluate that attitudes were more positive in an earlier time and more influential users who have a great number of followers. And we also figure out those words frequently mentioned in collected tweets are brands, plant-based, and taste.

  Finally, we discuss the related information in order to let the readers understand the current market situation, and introduce recommendations for the development of the entire impossible food market.

Introduction

Recently, a fashion food conception called impossible food steps to the front of the public. Impossible food is made from non-natural meat: meat or meat analog which are not from nature. Non-natural meat can be separated into two types. The first one is the plant-based meat analogs (for example, pea protein). The other type belongs to the meat grown by "in vitro cultivation" of animal cells.

Currently, plant-based meat is the mainstream of impossible food. Impossible Food Inc and Beyond Meat Inc, who invent and sell impossible food, successfully become a listed company. The market shows an optimistic attitude towards them. Each year, the company receives a great amount of investment from well-known organizations like Google, Klosha Venture and Viking Global Investors. Even some world-famous billionaires such as Bill Gates and Li-Ka Shing put a considerable amount of money into this project.

According to Thorn Bret (2019), the market for impossible food rises quite fast as the following:

Red Robin Gourmet Burgers & Brews rolled out an Impossible Burger to its

more than 500 restaurants this spring, at the same time Burger King

announced its test; 2,300-unit Little Caesars Pizza has tested a sausage

alternative developed for it by Impossible Foods; and Del Taco introduced

Beyond Tacos, using a customized version of Beyond Burger, to its more than

570 locations. Del Taco's Beyond Tacos were so successful that the

quick-service Mexican chain added Beyond Burritos. Chains as far-ranging as

casual-dining Darden Restaurants subsidiary Yard House and fast-casual

PizzaRev also have joined the fray. (p.11)

However, a new concept always gets challenged by traditional ideas. On the Internet, impossible food is still controversial. So our group wants to figure out the level of positive/negative attitudes, related factors, and how to promote the impossible food.

Business Goal Analysis

Unfortunately, mainly because of the high production cost, the cultured meat is not as broadly provided on markets as common meat did. It means that doing market research in advance by a similar product (plant-based meat) is essential. The popularity of impossible meat is not only depended on the price but also on customers' acceptance.

We predicted that there are mainly three types of people have the possibility of becoming a potential customer of impossible meat. If we can find factors related to them, we can take promotions precisely to certain type(s) of customers.

The first group is individuals who have strong religious beliefs. For instance, Buddhism requires its believers not to eat meat since animals will die for it. However, eating meat without causing animal death may be acceptable. We want to research whether religious

believers are attracted by it.

The second group of people are vegetarians. From our original thoughts, vegetarians tend to use different types of food to substitute meat. It all depends on whether they consider the products as meat or not. Some vegetarians may even not accept eggs and milk. We want to find out what are vegetarians' commands on this type of product.

The third group of people are those who always want to be fashion. The invention of impossible meat changed the whole society's understanding of food. Most people are not scientists in the lab, they want to discover the difference between impossible food and real meat by themselves. After they have tasted it, we want to know their feedback.

Now we have the target customer and corresponding factors towards impossible meat. We will dig out the exact parameters to evaluate those hypotheses. In the end, we can use our results to help restaurants modify their advertising strategies and make little changes in their impossible meat products.

Dataset Description

As a popular social media, twitter provides millions of texts including what we want. So we chose twitter as our data source. Generally, we are going to find the twitter comments related to impossible meat in two time-scales and scrape the excess content, only remain the date, user name, keyword related to attitude and reason. Then we will collect them and save them into CSV files.

The data includes the related information about the impossible meat. Impossible meat has many alternative names: vegetarian meat, veggie meat, meat analog, meat alternative, meat substitute, mock meat, faux meat, imitation meat, etc. Cultured meat also has its correlated names: clean meat, in vitro meat, slaughter-free meat, vat-grown, lab-grown meat, cell-based meat, cultivated meat, and synthetic meat, etc. However, the burger cutlets are the main food product made with impossible meat, so we capture tweets only by three keywords: impossible burger, impossible whopper, beyond burger.

From twitter, we collect the tweets posted in one week, and tweets posted from May 6th to Sep 1st. In the recent week there are 807 tweets mentioned the "impossible burger", 1771 tweets mentioned "beyond burger", and 1736 tweets mentioned "impossible whopper". Each tweet includes the user name who sent the tweet, location of the user, how many followers, friends, favorites of the tweet user has, and the tweet text. In the earlier record there are 2020 tweets mentioned the "impossible burger", 1648 tweets mentioned "beyond burger", and 1946 tweets mentioned "impossible whopper", but only contains the date, user name, and tweet content.

Focusing on the attitudes and reasons, those collected data are more messy, unstructured. Those Abbreviations, misspellings, synonyms, and expressions depending on the context. We need to use sentiment analysis and text analysis to capture the true information.

System Design

We set the system into three phases: data collection, data processing, and evaluation.

The initial procedure we did is data collection. We planned to choose the websites (or social platforms) which we can find enough data to analyze. At first, we thought yelp is a great platform for collecting data, but then we found out there were two problems exist: First, we can barely find comments about impossible meat; Second, when we tried to search the restaurant which used to sell "impossible burger", but most of the comments are about the

restaurant itself and sometimes the restaurants did not match also included in the research result. So we decided to collect data from twitter.
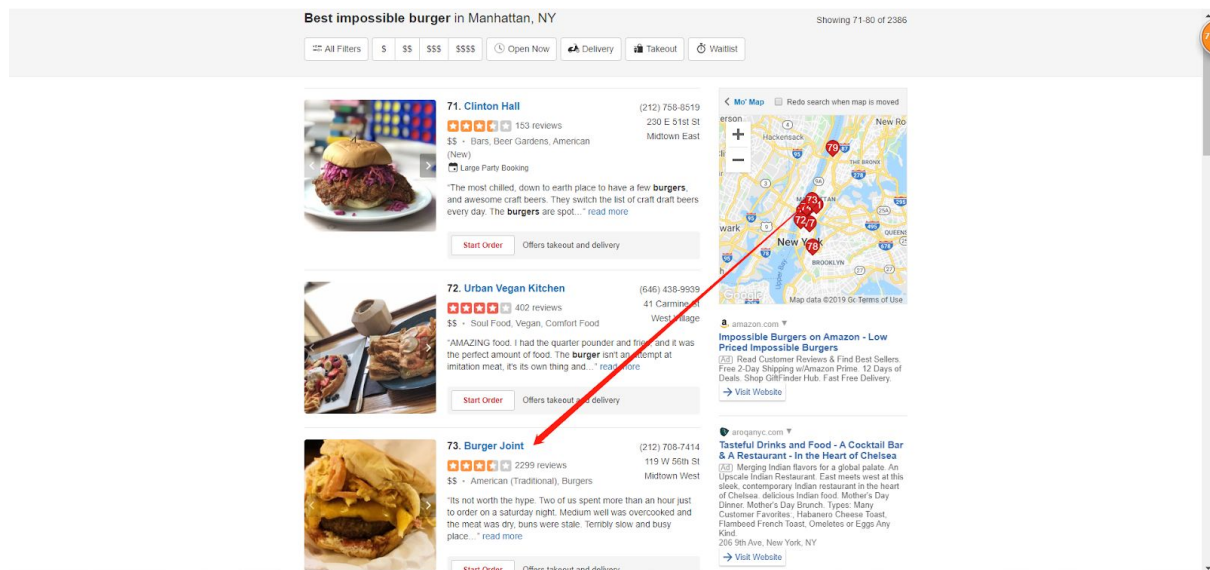
Figure 1 An "impossible burger" search result, yelp puts a restaurant which not even provide the vegan food

The second procedure that we have done is data processing. After we put enough data, we needed to sort all the data. Our aim was to promote impossible food, so we can simply divide all the data into three categories: Endorsement, opposition, and neutrality. We will set the keyword to be the standard for which the review comment belongs.

The last procedure that we have done is evaluated data. We performed keyword capture on each category to get the analysis results: for example, why people accept or like impossible food; what causes people to dislike impossible food. Finally, we summarized the data obtained, propose promotion and development suggestions, and reached our final goal.

System implementation

We used two packages in Python: Twint and Tweepy, those are packages which can help us grab data from Twitter. It is very efficient at collecting comments on a popular topic on Twitter. Since burgers made with impossible meat is becoming well known. It must have been discussed a lot, with a considerable amount of Twitter users. Since we wanted to understand the attitudes of the market for this type of food and make predictions on it future. We need to know what customers think about them. So we applied for a Twitter API which allowed us to reach its HTML file and collect useful information from it. After our application was accepted, we got four authorized keys from Twitter. These keys are Consumer Key, Consumer Secret, Access Token and Access Token Secret. Though these Keys, we can access information by running our code.

After preparation, we wrote the code to grab data from Twitter. We first imported packages and defined keys. Then we listed the key-words that we want to find. We used a Twitter-crawling tool called cursor to regulate the data we found. We grab whole Twitter text from Tweets related to Impossible Burger, Impossible Whopper and Beyond Burger. We also recorded usernames, date of posting, accounts follow, friends account and locations. We wanted to see which kind of person has positive comments towards this type of food and what kind of person has negative comments on this type of food. How many followers and friends on Twitter do they have. Time is also an important variable. We would like to see

changes in attitudes towards this topic through time. Know whether the market will expand or shrink in the future is important.

Next, we used sentiment analysis to classify the captured data. The inputs were tweets in the CSV files, the outputs were tables included attitudes, reasons which are classified by attitudes. As mentioned above, We changed separate information on twitter into three CSV files. (Impossible Burger, Impossible Whopper and Beyond Burger) We split information of Tweets contain these three keywords into different columns.

Evaluation

We used two sentiment libraries: TextBlob and NLTK. There are two parameters returned: polarity, subjectivity. It refers to how extreme/subjective the text is. According to Pang and Lee (2004), "subjectivity detection can compress reviews into much shorter extracts that still retain polarity information at a level comparable to that of the full review"(p.278). However, the number of our samples is limited, so we will not remove objective tweets, only focus on the polarity of the tweets.

The polarity of each tweet is graded as float numbers on the scale of -1 to 1 based on the sentence keywords. The skewness of score depends on how extreme the keyword is. For example, the keyword "worse" is graded more negatively than "bad". "-1" means an extremely negative attitude towards this type of food, "0" means a neutral attitude and "1" means an extremely positive attitude. Since those two libraries have different algorithms, their values are different for the same tweet.

General result

To make our results more visualized and intuitive, first, we drew the brief distribution of the attitudes. Concerning index>0 is positive, index=0 is neutral, index<0 is negative.
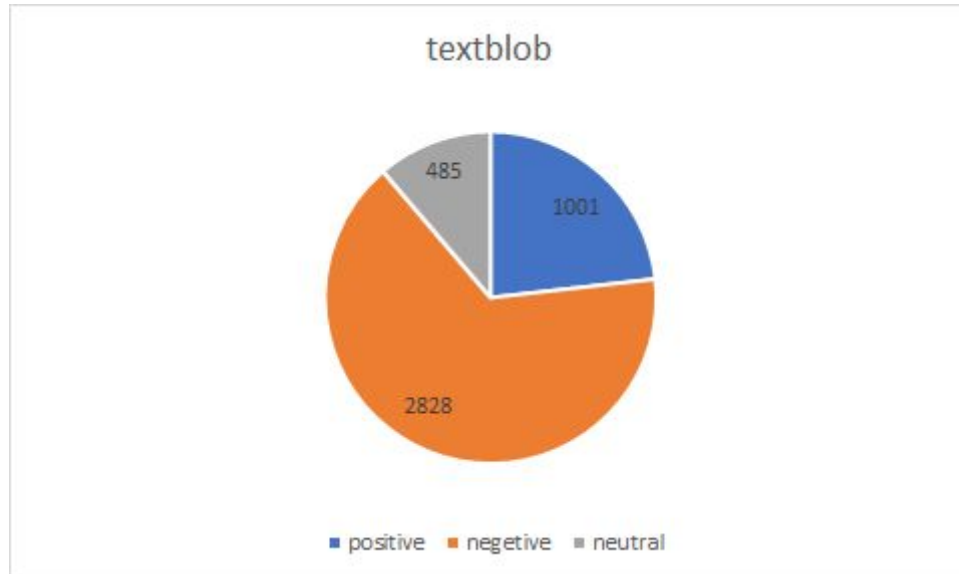
Figure2 A pie chart shows the number of positive, negative and neutral attitudes towards this problem based on Textblob.

As shown in Figure 2, more than half of the tweets hold negative attitudes towards impossible food according to the Textblob sentiment analysis. Less than one-fourth of the users like the impossible food in our samples. And there are 485 tweets express neural attitudes in this topic.
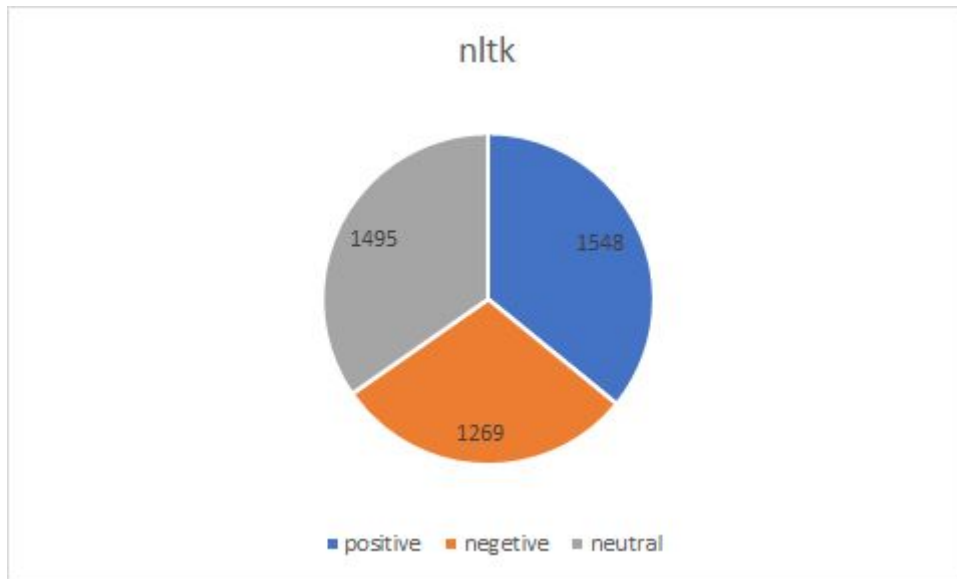
Figure3 A pie chart shows the number of positive, negative and neutral attitudes towards this problem based on NLTK.

Figure 3 shows the distribution of tweets' attitudes towards impossible food base on the sentiment analysis of NLTK. We can easily see that every attitude occupies nearly one-third of the pie, which means that each attitude has similar amounts of supporters. And the whole audience tends to be neutral according to the NLTK.

There is a big difference between the two sentiment analysis results. We consider the NLTK's analysis result is slightly more reliable and trustworthy. Because NLTK's sentiment analysis model is trained by reviews of merchandises and tweets from twitters. If we consider users in a positive area will take impossible food automatically and users in the negative area will not take impossible food anymore. Then users hold a neutral attitude are likely to become potential customers. The NLTK model can find more targets for us. The TextBlob model which is more rigid is likely to make our publicity expenses more economical.

However, concerning the wonderful subtleties of human language, we still analyze the exact parameters of sentiment instead of concluding them into positive, negative, or neutral. In general, the mean value of the sentiment analysis towards the 3 keywords is:

	Beyond Burger	Impossible Burger	Impossible Whopper	Total
TextBlob	-0.000198	-0.268394	-0.298589	-0.170365
NLTK	0.065699	0.173213	-0.040259	0.043192

Table1 mean value of attitude (from Nov. 26th to Dec. 3rd)

The columns "Beyond Burger", "Impossible Burger", and "Impossible Whopper" are the keywords that we employed in collecting data. The numbers below them are the average score of sentiment analysis in different models of Textblob and NLTK. TextBlob tends to give negative scores in this tweet analysis while NLTK tends to be positive.

In the beyond burger area, TextBlob rated it almost neutral and NLTK rated it positively. These three keywords may both refer to cuisines served by canteens. However, 'Beyond Burger' also refers to a kind of plant-based patties product made by the company beyond meat. So the tweets containing "Beyond Burger" may came from users who treat

patties themselves at home. And hence it is reasonable and understandable that the 'Beyond Burger' obtain a almost positive rating for people always like home-made cuisine with their own favor preference.

"Impossible Burger" is the name of the burger made by beyond meet in some canteens. For example, Mos Burger pushes out an impossible burger under the cooperation with the Impossible company, and you can still find them in the Mos burger's kitchen. According to table1, TextBlob deviated far from NLTK in analyzing the sentiment of tweets related to "Impossible Burger". TextBlob rated these tweets more negatively while NLTK rated them more positively. It shows that tweets' attitudes about "Impossible Burger" may be amphibious. It is also convincing us that the complexity of human language and the difficult of natural language processing.

"Impossible Whopper" may be the hottest food in the late 2019. It is famous for its topicality instead of taste. The new plant-based meat producers received a large amount of investment from many famous investment corporations that stimulated interest, curiosity, and discussion about it in the masses. Burger King seized the opportunity and brought out the "Impossible Whopper". Most of the tweets containing "Impossible Whopper" are referring to Burger King's product for that "whopper" is their specialty. Both TextBlob and NLTK think that the reviews of this burger are basically negatively. People tend to have a higher standard in rating food in the famous canteen like Burger King. It is not strange that people did not give lots of good reviews when the "Impossible Whopper" did not surprise them.

We put the data together and get a mean value of each analysis method, and put them in the "Total" column. Compared with the pie chart with a large area of negative tweets, the average value of the sentiment analysis using TextBlob is -0.170365, which is not really bad. A large amount of negative tweets with a quite fair mean value indicates that people's attitudes are actually negative but close to neutral. NLTK's result is similar to a certain extent. The areas of different attitudes are similar to equal in pie charts presenting the results of NLTK's sentiment analysis. And the average value of these data is slightly positive, showing that the attitudes of the audience are positive and close to neutral according to NLTK. A large number of neutral users, who are likely to be potential customers, are the evidences of a big developing market, which is profitable and attractive.

Here are some examples show the most positive/negative tweets identified by TextBlob/NLTK

tweets	TextBlob	NLTK
@SoxOnTheBrain You want to eat hamburgers on Thanksgiving like in Father Knows Best. By the way, have you tried the Beyond plant-based burger? I can't stop eating it! #cinemon	1	0.8474
I just tried the Impossible Whopper for the first time and it was pretty good. It didn't taste exactly the same as a regular whopper but I liked it and it was nice to be able to eat "meat" and not feel guilty about it after lmao	0.2153	0.9628
@Burger King, I put jelly on my Peanut butter sandwich not vegetables & your impossible burger taste like Peanut Butter not meat! So that's a FAIL!!!	-0.9049	0.5673
Just tried the impossible whopper, I did not care for it. Left a bad after taste in my mouth. Not only that fell for the scam coupon $7 taste test bundle no fries, no drink after adding large drink and small onion rings cost me $11 outrageous should have known better.	-0.2378	-0.9453
the impossible whopper is the WORST form of a vegan burger. i repeat the WORST form https://t.co/Cl5NdV1Ty8	-0.8889	-0.8926

Table 2 Tweet examples

Early Trend

According to Google Trend, there was clearly high crest(s) of searching "beyond burger", "impossible burger", "impossible whopper". Under those line charts, "The interest overtime" means "Numbers represent search interest relative to the highest point on the chart for the given region and time". We consider the interest index between 50 and 100 are "popular time". When lower than 50, the popular time ends.
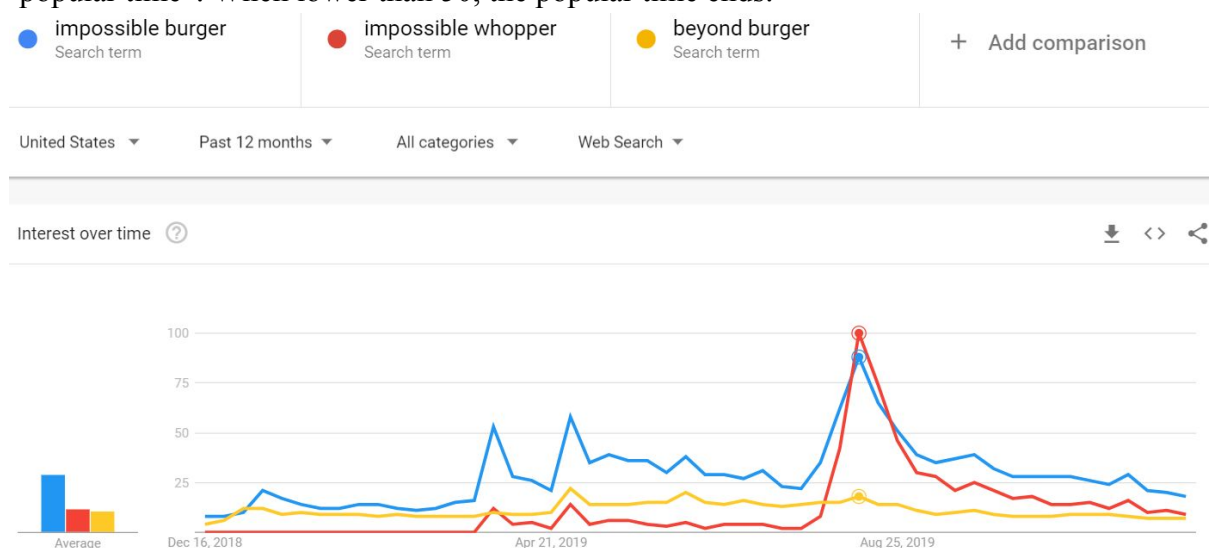

Figure 4 Google Trend: Line chart of "beyond burger", "impossible burger", "impossible whopper" search popularity and comparison

According to those line charts, "impossible whopper" has one popular crest from 11th to August 17th, it ends on August 31st. This is reasonable since Burger King released it on August 8th. "impossible burger" has similar peak value with impossible burger except for several small crests earlier because there were related news posted. For instance, "Impossible Foods 'raises US $300m from investors" (Coyne, 2019). Compared with those two burgers, "beyond burger" had several popular crests-there were some restaurants named their meat burgers with this fancy name. The highest one happened from April 28th to May 4th, and another happened from August 11th to August 17th, then ends on September 1st.

We want to figure out that during the early popular trend, how the twitter users' attitudes towards those products were. Based on the peak scale, we run Twint to scrape the tweets before September 1st, and select tweets after May 6th. Here is the mean value of the sentiment analysis towards the 3 keywords:

	Beyond Burger	Impossible Burger	Impossible Whopper	Total
TextBlob	0.197311	0.111438	0.150319	0.131143
NLTK	0.274833	0.217118	0.282913	0.242736

Table 3 Mean value of attitude (from May 6th to Sep 1st)

Compared with the data collected from the recent time (last week of November and the first week of December), after the peak, the public attitudes towards those impossible food products turn downwards, even from positive to negative based on TextBlob.

Initially, the promotion of impossible food on twitter truly succeeds based on high popularity. After the popularity, it seems that the promotion such as advertising on twitter, inviting influential twitter users to make recommendations, do not follow up. However, the reason might be complicated-not only the lack of promotion, but also the combination with other factors. After the excitement of first-taste, the emotion tends to be rational, now the real competitiveness of product exposed. Being a food product, the taste of impossible food is an essential factor of reputation. Suppose impossible food still not match with the "real meat", the attitude fell inevitably. Another possible factor is the potential customers we consider are correct, but they tend to be more disappointed with impossible food. In the next step, we will focus on the factors of attitude downwards.

Frequent Keywords

We use the CountVectorizer to figure out the word frequency among the text. Excluding the stop words, punctuation and meaningless words, the effective words frequently occurred may give us some enlightening. First of all, two of the most frequently occurred words are "burger" and "impossible", which fit our topical subject. They showed up 3675 and 3171 times respectively.

"rt" is another important word. Tweets with "rt" mean that they are retweeted. It occurred in 1982 times. Nearly half of the tweets are retweet in our sample. Retweets show the opinion of the users is similar to the original tweets. Retweets also show the power of those influencers with lots of followers. Their opinions are more likely to be read and be retweeted. They are influencing the society of twitter in this way.

"plant", "based", and "plant-based" are three of the most frequently occurred words that describe the impossible food, and they are always correlated. They showed up 736, 729, and 716 times respectively. They show us the most controversial part of this kind of food is

its ingredients. This breaks our origin suspicion of people cares more about taste than ingredients. The audience is actually very curious about the usage of this newly developed plant-based food and how will it change our life.

Another important attribute that these burgers have is "fast". The words "fast" and "fast food" showed up 616 and 612 times respectively. Fast food has long been considered as quick, convenient, fatty, and lacking nutrition. Impossible whopper owns the advantage of quick and convenient as traditional fast food, that fits the pace of life of people in the city. However, keeping people fit and healthy by this newly plant-based food still need to experiment in everyone's daily life.

The most frequently occurred taste-related words are "chili", "pain", and "pain chili". They showed up 553, 552, and 551 times respectively. The taste of spicy maybe come from the sauce that the restaurant added. We can not say it has a strong correlation between chili and impossible burger. However, the taste of impossible food is still one of the essential attributes that influence customers, and producer worth attaching more importance to it for those words appeared many times.

Attitude from influential tweet user

In order to observe the main-stream attitude towards impossible food. We Select Twitter users who have more 10000 followers considered as influential users and their comments on "Impossible Burger", "Impossible Whopper" and "Beyond Burger". We found out that there are 245 influential Twitter users posted comments on this topic.

	Beyond Burger	Impossible Burger	Impossible Whopper	Total
Influential Users	84	67	95	246
TextBlob	0.260620	-0.140740	-0.207360	-0.110060
NLTK	0.209688	0.187279	0.009488	0.125931

Table 4 Mean value of attitude value

Here are some samples of the tweets:

Sample of beyond burger tweets from influential tweet handlers		
Twitter Handle	Followers	Tweet Content
HuffPost@Huff Post	11475428	Meatless meat is booming, with some companies claiming they are helping to save the world. Here's a look at how these claims stack up.
PETA @peta	9890492	@AGOODUSERNAME4 We like the fact that McDonald's offers a vegan burger in Canada!
Ira Madison III @ira	185295	Beyond Burger.......... no thanks!!! But I will take a Bed Burger with extra ketchup and a Bath Burger with no onions!!!!!!!! *Muttley from Wacky Races laugh*'
Tim Noakes@ProfTimNoakes	136298	RT @iam_preethi: Beyond Meat vs. Impossible Burger vs. Dog Food. Can you tell which one is which?

Table 5

Sample of impossible burger tweets from influential tweet handlers		
Twitter User	Followers	Tweet Content
Frank Lipman MD@DrFrankLipman	73462	I am all for eating whole plant based foods, but these meat substitutes, like the Impossible Burger or Beyond Meat are highly processed and full of questionable ingredients. Like most other processed foods, they are plant based, but that does not make them healthy!
ImpossibleFoods @ImpossibleFoods	53906	RT @dangreene: Just saving the planet one grand-award invention at a time.@ImpossibleFoods Impossible Burger 2.0 wins @PopSci best product
wine thinker #FBPE @robertjoseph	30072	@PlanetVictoria Since I'm the one enjoying the Impossible Burger, do you mean to say let *me* eat cake?"
Non-GMO Report@nongmoreport	29481	Indian perspective on the Impossible Burger. What Earth needs is not lab-grown meat and fake meat but food vegetables and meat ethically produced and eaten in moderation.

Table 6

Sample of impossible whopper tweets from influential tweet handlers		
Twitter Handler	Followers	Tweet Content
Bloomberg@business	5724414	Burger King could get in trouble for its 100% Whopper, 0% beef via @bopinion
SFGate@SFGate	478010	Vegan who sued over 'Impossible Whopper' has a point.
slashdot@slashdot	242712	Vegan Sues Burger King For False Advertising, Alleging 'Impossible Whopper' Cooked With Beef Fat.
Bloomberg Opinion@bopinion	206015	Is it really true that Burger King\xe2\x80\x99s new Impossible Whopper is, as the ads claim, "Whopper, 0% beef"?The answer matters.

Table 7

We can notice that among the most influential tweets, the sentiment ratings increase a certain level. However, the amount of increase does not boost. The ratings are still among the -0.2 and 0.2. Comparing to the two extreme values -1 and 1, we can see that most comments shown an unextreme attitude. We committed that the market for impossible food is not as optimistic as expected. Samples above show those tweets still not be expressed strongly positive. Maybe well-known people or organizations select their words more friendly towards the topic they discuss, but it does not mean they tend to like impossible food more than ordinary people. Moreover, one factor influences the sentiment is the related news. Impossible whopper got involved with certain negative news such as beef allergy. And those news have been tweeted/retweeted by those influential users, which further decreases the sentiment values.

Conclusion and Future Direction

Based on the information above, we can make certain discussions and a detailed description of the future direction. Taking the largest restaurant among them as an example of discussion, the impossible whopper is one of the most well-known products under the Impossible Burger. It uses Burger King's brand affect to make people realize that there is a third option besides meat and vegetarian food: impossible food. This concept and the experimental product has appeared for many years based on the worldwide search popularity of Google, but only "impossible burger" has the highest popularity. According to our hypothesis, Burger King and the impossible food company selected as the cutlet as products and made impossible burger/whopper we see today, instead of other products of impossible food such as impossible sausage or impossible chicken wings. We collected user comments on relevant impossible food products from twitter and analyzed the direction. Based on the results, we can infer that the launch of the impossible burgers has positive and negative effects on the entire commercial market of impossible food.

The positive effect is to use Burger King's brand effect and people's enthusiasm for new technology has made people all over the world have a new understanding of the technical development of impossible food. There were always concerns and discussions about

the impossible food for some reason, and there were no famous products been released, so impossible food was well-known, but an unfamiliar product to most people. With the release of Burger King's impossible whopper, the distance between people and impossible food has been greatly reduced, and people's concerns have been eliminated from some angles. This is a very important advancement for the entire impossible food product market.

However, the attitude towards impossible food still decline, the negative effect seems more effective. The negative effect is that although many people have actually tried the impossible food, this product release does not give people any reason to choose it. In a word, people do not have a good reason to convince themselves to follow the new product and change their old purchasing style. In terms of technology and marketing, at present, most of the impossible food products companies have not identified their target users, still in the exploration stage. Our analysis claims the religious people are not paying as much attention as we imagined; The vegan eaters fell more disappointed and shown much fewer attitudes. To the third type of customer (chase fashion), there are three main reasons why consumers of meat products have become consumers of impossible food products. First, there is still a significant gap between the taste of impossible food products and traditional meat products. Secondly, the price of impossible food products is still less competitive against real meat for many people; thirdly, there is no more reason for people to change past consumption because of this new product mode.

Even though those problems exist mentioned above, we still think that the impossible food market will not be silent. On the contrary, we think this is a good turning point for the impossible food market.

Based on the collected data and other relevant information, we make the following recommendations for the commercial development of impossible food products: because the technology of impossible food production is still in an immature stage, there is still much room for improvement in the products released at the same time. Compression can also be further carried out, and everything has not been finalized. We believe that while developing technology, companies should be targeted to target customers, and more specific reasons should be given to them to buy impossible food products. In the process of technological development, we can first focus on solving the taste gap between impossible food and ordinary meat products. We don't consider the price as the most important issue. Taking organic products as an example, in general, the difference between organic food and ordinary food The price gap is 30% to 80% or even greater, but this has not affected the vigorous development of the organic food market. At present, the sales increase in organic food alone is much higher than the entire food manufacturing industry. In this regard, impossible food products are actually similar to organic foods. They themselves bring many reasons for people to change their current consumption patterns, such as no longer killing animals, and providing new options for vegetarians. Those ideas should be broadly propagated among social media, especially twitter. The promotion of impossible food should continue to focus on the environment saving since currently the plant-based meat and further cultured meat cannot immediately fulfill the taste.

Even though impossible food is not extremely welcome based on twitter analysis, if big brands such as Burger King want to apply more franchisees and earn more profits, they should still concern the products related to impossible food. Currently, the difference between plant-based meat and cultured meat is obscure. Facing non-natural meat in the future, a customer might feel unclear if this is vegan or not. Unlike normal meat, impossible food is not a rigid demand for everyone, it's potential customers are limited. So the impossible food companies and restaurants should follow the suggestions. We believe that the suggestions we

have given are helpful to the entire impossible food industry.

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        https://trends.google.com/trends/explore?geo=US&q=impossible%20burger
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