MULTIMEDIA UNIVERSITY ®

TDS3751
Social Media Computing

Sentiment Analysis

Retail – Haha No Yume

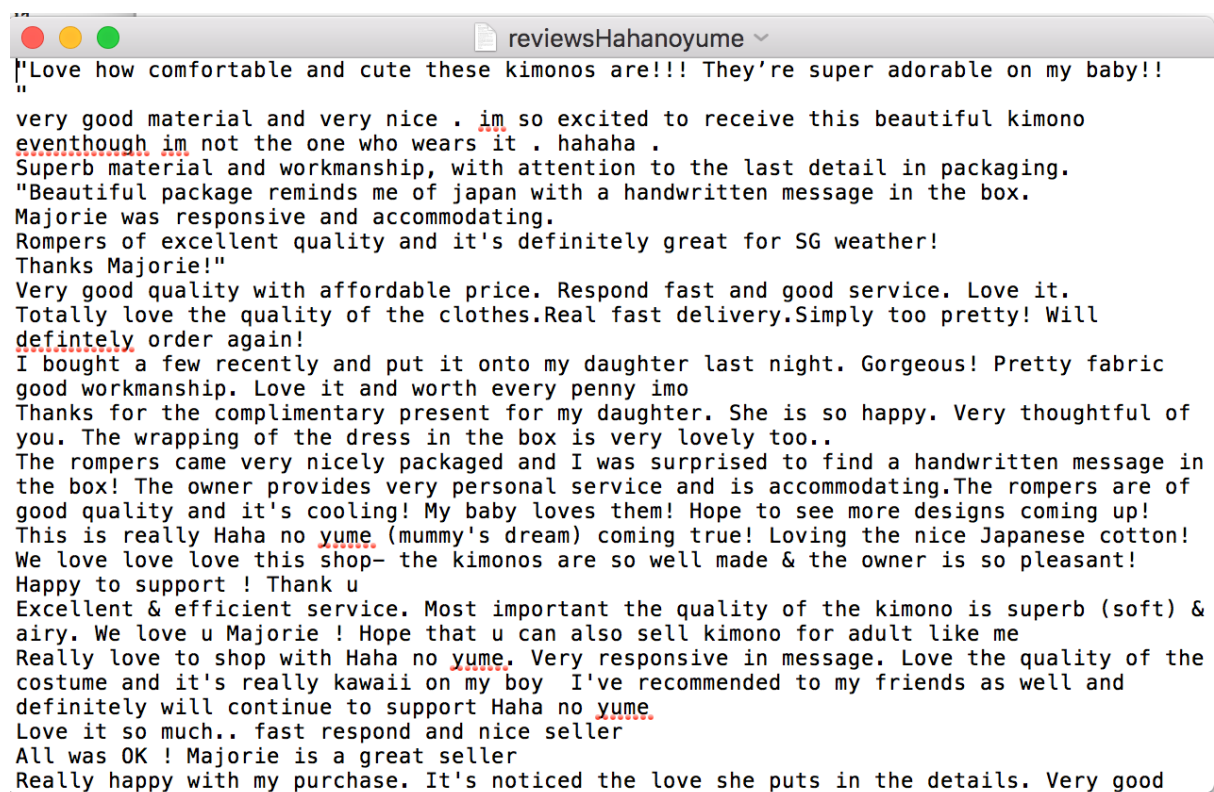| Name	Student ID
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Introduction

In this assignment, we are to focus more on the sentiment analysis of the three companies; Haha No Yume, Zalora Malaysia and Uniqlo Malaysia. We will be analysing more towards how the opinions of users towards the retail domains based on the three companies stated recently. There are so many ways for us to gather and analyse the opinions of the users through the social media platform as now there are many social media platforms that can provide a different advantage for the company itself. As for us, we will be looking more into Facebook. The reason on why we chose Facebook as the main social media platform for this assignment is because Haha No Yume is mostly active on Facebook. Their Facebook contents and post are generally better than their Instagram and Twitter account. Not to forget, Haha No Yume also have been inactive towards their twitter account as they have not received an interaction from any of their followers. Facebook also has a review section, so this can help us understand the user views towards the company even better.

Our approach in analysing the opinion and sentiments of the user was by collecting the reviews and comments from the Facebook account of their company itself. For the reviews, there are 2 types of reviews that we have identified; written reviews and starred rating reviews. We chose the written review as a part of our dataset because with that, we are able to conduct a sentiment analysis on the reviews that the users have made. Although Facebook has provided a review section, we are unable to scrape the data automatically from the Facebook API as it needs the Page Access Token. With that, we had to scrape all the written reviews manually and save it.

Unfortunately, we are only able to scrape the written reviews for Haha No Yume only. This is due to Zalora and Uniqlo has a huge amount of reviews, and if we were to scrape all the data for both of the company it would be a time-consuming task. As for Zalora Malaysia and Uniqlo Malaysia, we decided to use the comments of the user as the dataset in order to analyse the sentiment of the users towards the company. We even collected the comments for Haha No Yume, this helps us to show the different result of views by analysing the comments and reviews.

Procedure for determining the opinion using reviews

In order to know and get a better understanding of the opinion of the user toward Haha No Yume, firstly we collect the raw data. The raw data that we used for this task was the review from the Haha No Yume customers to the company itself. We didn't use the raw comments data because mostly the comments on the facebook page are more related to tags between friends and emojis. Haha No Yume mostly post things that are more towards funny videos and quotes. This is the reason why we chose the reviews as the dataset towards opinions. The review was collected manually from the Facebook page of Haha No Yume. There's a total of 42 reviews towards their company. We only took 32 reviews since only 32 reviews are only written reviews and the others are starred reviews.

reviewsHahanoyume

"Love how comfortable and cute these kimonos are!!! They're super adorable on my baby!!
"
very good material and very nice . im so excited to receive this beautiful kimono
eventhough im not the one who wears it . hahaha .
Superb material and workmanship, with attention to the last detail in packaging.
"Beautiful package reminds me of japan with a handwritten message in the box.
Majorie was responsive and accommodating.
Rompers of excellent quality and it's definitely great for SG weather!
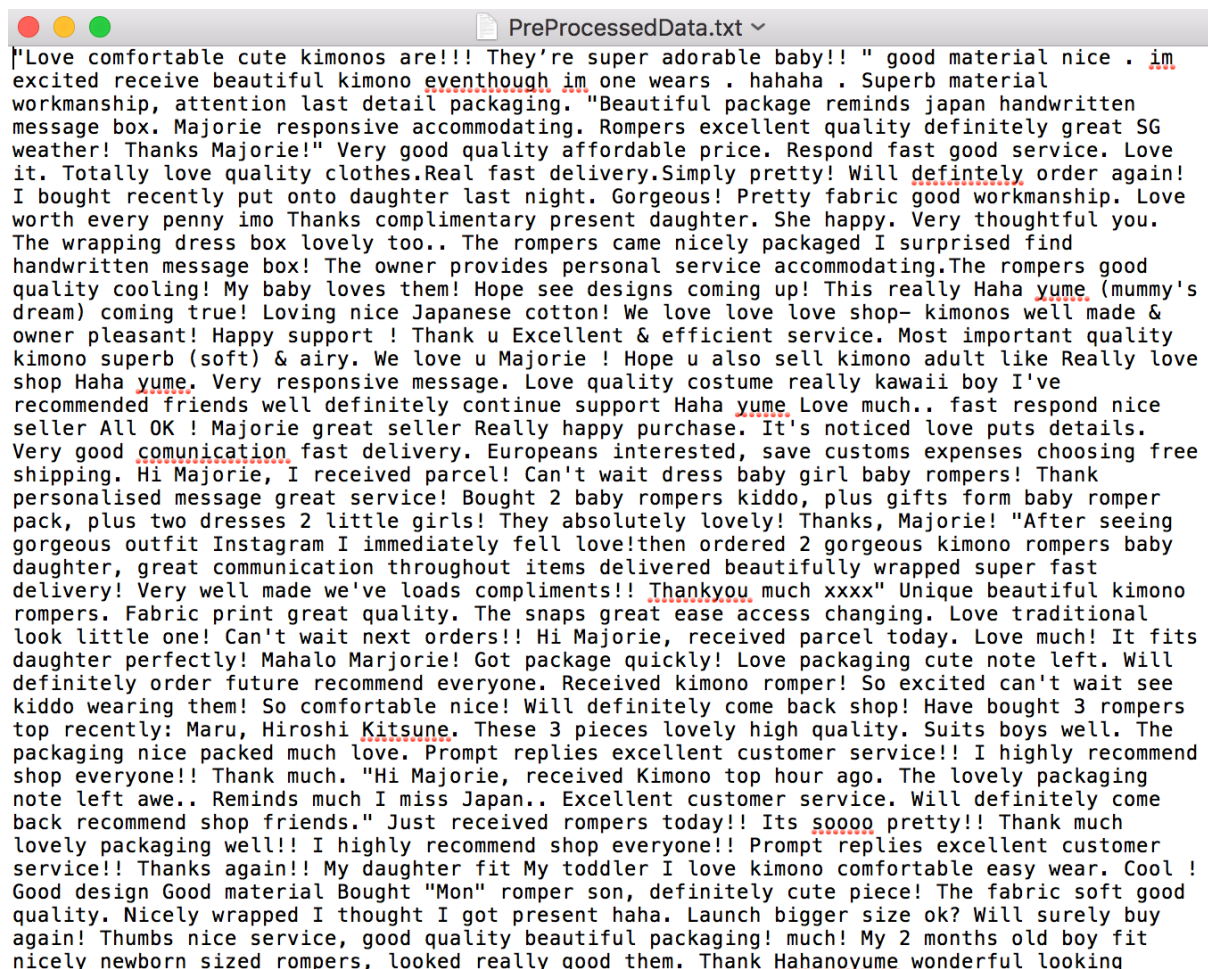Thanks Majorie!"
Very good quality with affordable price. Respond fast and good service. Love it.
Totally love the quality of the clothes.Real fast delivery.Simply too pretty! Will
defintely order again!
I bought a few recently and put it onto my daughter last night. Gorgeous! Pretty fabric
good workmanship. Love it and worth every penny imo
Thanks for the complimentary present for my daughter. She is so happy. Very thoughtful of
you. The wrapping of the dress in the box is very lovely too..
The rompers came very nicely packaged and I was surprised to find a handwritten message in
the box! The owner provides very personal service and is accommodating.The rompers are of
good quality and it's cooling! My baby loves them! Hope to see more designs coming up!
This is really Haha no yume (mummy's dream) coming true! Loving the nice Japanese cotton!
We love love love this shop- the kimonos are so well made & the owner is so pleasant!
Happy to support ! Thank u
Excellent & efficient service. Most important the quality of the kimono is superb (soft) &
airy. We love u Majorie ! Hope that u can also sell kimono for adult like me
Really love to shop with Haha no yume. Very responsive in message. Love the quality of the
costume and it's really kawaii on my boy I've recommended to my friends as well and
definitely will continue to support Haha no yume.
Love it so much.. fast respond and nice seller
All was OK ! Majorie is a great seller
Really happy with my purchase. It's noticed the love she puts in the details. Very good

Next, from the raw data we preprocessed the data to make the data more accurate. We began to remove words using the Stopwords, in order to not make unnecessary words appear and having a cleaner data as we go for the next step. The new preprocessed data has been saved as the figure below.

"Love comfortable cute kimonos are!!! They're super adorable baby!! " good material nice . im excited receive beautiful kimono eventhough im one wears . hahaha . Superb material workmanship, attention last detail packaging. "Beautiful package reminds japan handwritten message box. Majorie responsive accommodating. Rompers excellent quality definitely great SG weather! Thanks Majorie!" Very good quality affordable price. Respond fast good service. Love it. Totally love quality clothes.Real fast delivery.Simply pretty! Will defintely order again! I bought recently put onto daughter last night. Gorgeous! Pretty fabric good workmanship. Love worth every penny imo Thanks complimentary present daughter. She happy. Very thoughtful you. The wrapping dress box lovely too.. The rompers came nicely packaged I surprised find handwritten message box! The owner provides personal service accommodating.The rompers good quality cooling! My baby loves them! Hope see designs coming up! This really Haha yume (mummy's dream) coming true! Loving nice Japanese cotton! We love love love shop– kimonos well made & owner pleasant! Happy support ! Thank u Excellent & efficient service. Most important quality kimono superb (soft) & airy. We love u Majorie ! Hope u also sell kimono adult like Really love shop Haha yume. Very responsive message. Love quality costume really kawaii boy I've recommended friends well definitely continue support Haha yume Love much.. fast respond nice seller All OK ! Majorie great seller Really happy purchase. It's noticed love puts details. Very good comunication fast delivery. Europeans interested, save customs expenses choosing free shipping. Hi Majorie, I received parcel! Can't wait dress baby girl baby rompers! Thank personalised message great service! Bought 2 baby rompers kiddo, plus gifts form baby romper pack, plus two dresses 2 little girls! They absolutely lovely! Thanks, Majorie! "After seeing gorgeous outfit Instagram I immediately fell love!then ordered 2 gorgeous kimono rompers baby daughter, great communication throughout items delivered beautifully wrapped super fast delivery! Very well made we've loads compliments!! Thankyou much xxxx" Unique beautiful kimono rompers. Fabric print great quality. The snaps great ease access changing. Love traditional look little one! Can't wait next orders!! Hi Majorie, received parcel today. Love much! It fits daughter perfectly! Mahalo Marjorie! Got package quickly! Love packaging cute note left. Will definitely order future recommend everyone. Received kimono romper! So excited can't wait see kiddo wearing them! So comfortable nice! Will definitely come back shop! Have bought 3 rompers top recently: Maru, Hiroshi Kitsune. These 3 pieces lovely high quality. Suits boys well. The packaging nice packed much love. Prompt replies excellent customer service!! I highly recommend shop everyone!! Thank much. "Hi Majorie, received Kimono top hour ago. The lovely packaging note left awe.. Reminds much I miss Japan.. Excellent customer service. Will definitely come back recommend shop friends." Just received rompers today!! Its soooo pretty!! Thank much lovely packaging well!! I highly recommend shop everyone!! Prompt replies excellent customer service!! Thanks again!! My daughter fit My toddler I love kimono comfortable easy wear. Cool ! Good design Good material Bought "Mon" romper son, definitely cute piece! The fabric soft good quality. Nicely wrapped I thought I got present haha. Launch bigger size ok? Will surely buy again! Thumbs nice service, good quality beautiful packaging! much! My 2 months old boy fit nicely newborn sized rompers, looked really good them. Thank Hahanoyume wonderful looking

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Once we have the entire document, we then began to tokenized the data by breaking the word according to sentences rather than do it from paragraph/document style. In this method, we have used several NLTK's module such as tokenize and PunktSentenceTokenizer. From here we can analyze it better by each sentence. An example

```
 51   Love the traditional look on my little one!
 52   Can't wait for my next orders!!
 53   Hi Majorie, just received the parcel today.
 54   Love it so much!
 55   It just fits my daughter perfectly!
 56   Mahalo Marjorie!
 57   Got the package so quickly!
 58   Love the packaging and the cute note you left.
 59   Will definitely order again in the future and recommend to everyone.
 60   Received both the kimono and romper!
 61   So excited and can't wait to see both my kiddo wearing them!
 62   So comfortable and nice!
 63   Will definitely come back and shop!
 64   Have bought 3 rompers and top recently: Maru, Hiroshi and Kitsune.
 65   These 3 pieces are so lovely and in high quality.
 66   Suits my boys so well.
 67   The packaging is so so nice and it's packed with so much love.
 68   Prompt replies and excellent customer service!!
 69   I will highly recommend your shop to everyone!!
 70   Thank you very much.
```

of the results that we get is displayed below.

Then we did the POS (Part of Speech) Tagging. The real reason that we did POS tagging is to identify later in the next process which word are the opinions from the customer itself. From that we can determine which word will be chosen from the data as our aspect data. Below

```
1    [('``', '``'), ('Love', 'VB'), ('how', 'WRB'), ('comfortable', 'JJ'), ('and', 'CC'), ('cute', 'JJ'), ('these', 'D
T'), ('kimonos', 'NNS'), ('are', 'VBP'), ('!', '.'), ('!', '.'), ('!', '.')]
2    [('They', 'PRP'), (''', 'VBP'), ('re', 'JJ'), ('super', 'JJ'), ('adorable', 'NN'), ('on', 'IN'), ('my', 'PRP$'),
('baby', 'NN'), ('!', '.'), ('!', '.'), ("''", "''")]
3    [('very', 'RB'), ('good', 'JJ'), ('material', 'NN'), ('and', 'CC'), ('very', 'RB'), ('nice', 'JJ'), ('.', '.')]
4    [('im', 'NNS'), ('so', 'RB'), ('excited', 'JJ'), ('to', 'TO'), ('receive', 'VB'), ('this', 'DT'), ('beautiful', '
JJ'), ('kimono', 'FW'), ('eventhough', 'RB'), ('im', 'NN'), ('not', 'RB'), ('the', 'DT'), ('one', 'NN'), ('who', 'WP'
), ('wears', 'VBZ'), ('it', 'PRP'), ('.', '.')]
5    [('hahaha', 'NN'), ('.', '.')]
6    [('Superb', 'NNP'), ('material', 'NN'), ('and', 'CC'), ('workmanship', 'NN'), (',', ','), ('with', 'IN'), ('atten
tion', 'NN'), ('to', 'TO'), ('the', 'DT'), ('last', 'JJ'), ('detail', 'NN'), ('in', 'IN'), ('packaging', 'NN'), ('.',
'.')]
7    [('``', '``'), ('Beautiful', 'JJ'), ('package', 'NN'), ('reminds', 'VBZ'), ('me', 'PRP'), ('of', 'IN'), ('japan',
'NN'), ('with', 'IN'), ('a', 'DT'), ('handwritten', 'JJ'), ('message', 'NN'), ('in', 'IN'), ('the', 'DT'), ('box', 'N
N'), ('.', '.')]
8    [('Majorie', 'NNP'), ('was', 'VBD'), ('responsive', 'JJ'), ('and', 'CC'), ('accommodating', 'VBG'), ('.', '.')]
9    [('Rompers', 'NNS'), ('of', 'IN'), ('excellent', 'JJ'), ('quality', 'NN'), ('and', 'CC'), ('it', 'PRP'), ("'s', '
VBZ'), ('definitely', 'RB'), ('great', 'JJ'), ('for', 'IN'), ('SG', 'NNP'), ('weather', 'NN'), ('!', '.')]
10   [('Thanks', 'NNS'), ('Majorie', 'NNP'), ('!', '.'), ("''", "''")]
```

are some of the result that we get from POS Tagging.

Once we've done with the POS tagging, we began to choose and extract the opinions. From what we know, opinions are more likely to be adjectives and adverb. Thus, we began selecting only adjectives related and adverbs related. For example, comparative adjectives, superlative adjective, comparative adverb, and other combinations related with this. Not to forget, we chose the adjectives and adverbs words that related to the previous noun words. We chose noun to be the previous word as it can represent the proper aspect such as the product of it like the 'Kimono', 'Quality' and lots more. As a result, we are able to get the opinions of the user towards Haha No Yume. The results are shown below with the wordcloud.

```
[('SO', 16), ('VERY', 14), ('GOOD', 12), ('NICE', 6), ('DEFINITELY', 6), ('MUCH', 6), ('GREAT', 5), ('BEAUTIFUL', 4),
('LOVELY', 4), ('REALLY', 4), ('WELL', 4), ('COMFORTABLE', 3), ('CUTE', 3), ('EXCELLENT', 3), ('MORE', 3), ('SOFT', 3
), ('JUST', 3), ('LITTLE', 3), ('SUPER', 2), ('EXCITED', 2), ('HANDWRITTEN', 2), ('RESPONSIVE', 2), ('TOO', 2), ('NIC
ELY', 2), ('FAST', 2), ('GORGEOUS', 2), ('BACK', 2), ('PROMPT', 2), ('HIGHLY', 2), ('AGAIN', 2), ('WONDERFUL', 2)]
```

"Love comfortable cute kimonos are!!! They're super adorable baby!! " good material nice . im excited receive beautiful kimono eventhough im one wears . hahaha . Superb material workmanship, attention last detail packaging. "Beautiful package reminds japan handwritten message box. Majorie responsive accommodating. Rompers excellent quality definitely great SG weather! Thanks Majorie!" Very good quality affordable price. Respond fast good service. Love it. Totally love quality clothes.Real fast delivery.Simply pretty! Will defintely order again! I bought recently put onto daughter last night. Gorgeous! Pretty fabric good workmanship. Love worth every penny imo Thanks complimentary present daughter. She happy. Very thoughtful you. The wrapping dress box lovely too.. The rompers came nicely packaged I surprised find handwritten message box! The owner provides personal service accommodating.The rompers good quality cooling! My baby loves them! Hope see designs coming up! This really Haha yume (mummy's dream) coming true! Loving nice Japanese cotton! We love love love shop- kimonos well made & owner pleasant! Happy support ! Thank u Excellent & efficient service. Most important quality kimono superb (soft) & airy. We love u Majorie ! Hope u also sell kimono adult like Really love shop Haha yume. Very responsive message. Love quality costume really kawaii boy I've recommended friends well definitely continue support Haha yume Love much.. fast respond nice seller All OK ! Majorie great seller Really happy purchase. It's noticed love puts details. Very good comunication fast delivery. Europeans interested, save customs expenses choosing free shipping. Hi Majorie, I received parcel! Can't wait dress baby girl baby rompers! Thank personalised message great service! Bought 2 baby rompers kiddo, plus gifts form baby romper pack, plus two dresses 2 little girls! They absolutely lovely! Thanks, Majorie! "After seeing gorgeous outfit Instagram I immediately fell love!then ordered 2 gorgeous kimono rompers baby daughter, great communication throughout items delivered beautifully wrapped super fast delivery! Very well made we've loads compliments!! Thankyou much xxxx" Unique beautiful kimono rompers. Fabric print great quality. The snaps great ease access changing. Love traditional look little one! Can't wait next orders!! Hi Majorie, received parcel today. Love much! It fits daughter perfectly! Mahalo Marjorie! Got package quickly! Love packaging cute note left. Will definitely order future recommend everyone. Received kimono romper! So excited can't wait see kiddo wearing them! So comfortable nice! Will definitely come back shop! Have bought 3 rompers top recently: Maru, Hiroshi Kitsune. These 3 pieces lovely high quality. Suits boys well. The packaging nice packed much love. Prompt replies excellent customer service!! I highly recommend shop everyone!! Thank much. "Hi Majorie, received Kimono top hour ago. The lovely packaging note left awe.. Reminds much I miss Japan.. Excellent customer service. Will definitely come back recommend shop friends." Just received rompers today!! Its soooo pretty!! Thank much lovely packaging well!! I highly recommend shop everyone!! Prompt replies excellent customer service!! Thanks again!! My daughter fit My toddler I love kimono comfortable easy wear. Cool ! Good design Good material Bought "Mon" romper son, definitely cute piece! The fabric soft good quality. Nicely wrapped I thought I got present haha. Launch bigger size ok? Will surely buy again! Thumbs nice service, good quality beautiful packaging! much! My 2 months old boy fit nicely newborn sized rompers, looked really good them. Thank Hahanoyume wonderful looking

Sentiment Analysis for Brands – Facebook

For determine the sentiment of user towards the retail industry, sentence-level sentiment analysis was used. Sentence-level sentiment analysis will help us to find the sentiment of comment from user in Facebook with one sentence by one sentence.

We choose Facebook as our sentiment analysis because most of users in Facebook will give their opinions. Furthermore, Facebook is a suitable platform for speak out opinions that related to company or discussion better than other social platform like Instagram or Snapchat only used to post image or show off their fancy thing. Therefore, we also consider Facebook is early social media platform than Instagram and Snapchat and it can provide us a good view or comment from user to company.

HahaNoYume (Targeted company)

We conducted document-level analysis on the Facebook reviews from HahaNoYume because we found the results more accurate than sentence-level. Therefore, the figure below is showing positive or negative of user comment about HahaNoYume company.
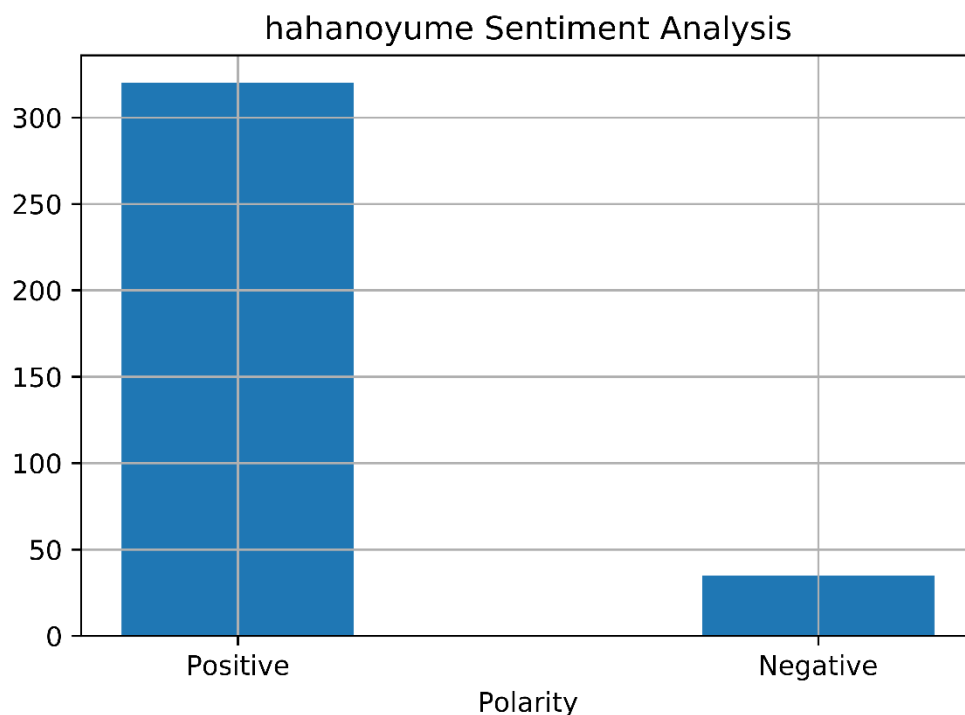
We take out the neutral sentiment of comment because the neutral comment is too many. Thus, we plot the positive and negative comment for comparison. According to the graph above, we can know the positive comment is more than negative comment, so view of

user toward HahaNoYume is positive. This means there are more than 3 quarter 4 of customer are satisfy the product of HahaNoYume.

Before starting to sentence-level sentiment analysis for HahaNoYume comment of wordcloud, we go through the simple wordcloud of comment for understand the user frequently topic. The figure below is the wordcloud of HahaNoYume comment.
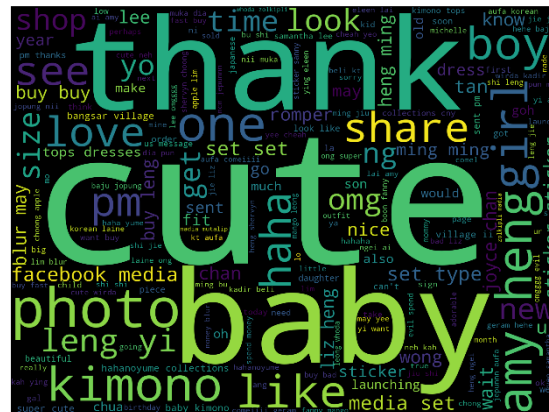
According the wordcloud of comment, we can know that the most frequently topic discussed by the user in the comment are sticker, one, buy, need, baju and nice. To know more detail about the wordcloud is positive or negative, we come out 2 wordcloud figure are positive and negative.

Positive Sentiment WordCloud(HahaNoYume)

For the positive sentiment wordcloud, we found out the cute, Thank, new, baby and love the most positive word in comment. 'Cute' was appeared because HahaNoYume always post the

baby picture wear their product kimono to promote their product with cuteness. Moreover, 'new' word is means HahaNoYume will keep posting new product pictures for promote their new product to customer.

Example:

Cure - I saw these advertised before and fell in love when I saw this gorgeous wee girl wearing this cute pink turban 🡒🡒
Sentiment (polarity= 0.399) Positive
Type of comment – Product design

Thank - Thank you! Selling out fast too! 🡒
Sentiment (polarity = 0.25) Positive
Type of comment – Product Awareness

Love - I love the headband. Keanu has his Japanese outfit already
Sentiment (polarity = 0.5) Positive
Type of comment – Product design

Negative Sentiment WordCloud

For the positive sentiment wordcloud, we found out the sorry, spend, Omggg, cannot and evil the most positive word in comment. 'Sorry' was appeared because HahaNoYume sometime will lack of stock for their product and their product is handmake product. Therefore, it will take time to make the product.

Example:

Sorry - Hi Karina! I'm sorry, unfortunately no. We only have 18-24m for Masami. Our sizing runs bigger than standard, all of our models are wearing 12-18m, and they're 2 yo baby girls ☐

Sentiment(polarity=-0.125)

Type of comment – Product Quantities

Cannot - And the link that points to the app download cannot be found .. Is it me or is the link broken?

Sentiment (polarity = -0.4)

Type of comment – Product link problem

Zalora

Zalora has huge number of view from the user but huge doesn't means good to company because the large number of view, the high possibility of negative view or positive view from the users.

Same like HahaNoYume, we also take out the neutral sentiment of comment because the neutral comment is too many. Thus, we plot the positive and negative comment for comparison.

According to the graph above, we can know the positive comment is more than negative comment, so view of user toward Zalora is positive. This means Zalora has more than 3 quarter 4 of customer satisfy Zalora product.
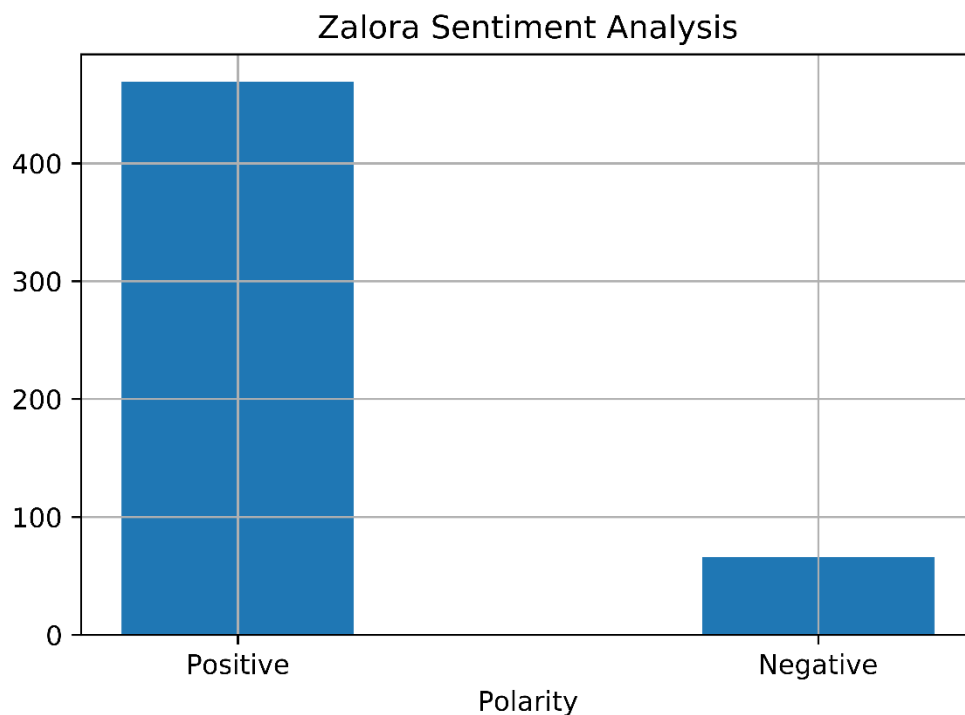
Before starting to sentiment analysis for Zalora comment wordcloud, we go through the wordcloud of comment for understand the user frequently topic. The figure below is the wordcloud of Zalora comment.

Zalora Comment WordCloud

According the wordcloud of comment, we can know that the most frequently topic discussed by the user in the comment are sticker, order, thank, photo, item and share. To know more detail about the wordcloud is positive or negative, we come out 2 wordcloud figure are positive and negative.

Positive Sentiment WordCloud (Zalora)

For the positive sentiment wordcloud, we found out the thank, love, MUMMY DADDY, SUGAR MUMMY and best are the most positive word in comment. 'Nice' is means Zalora give a satisfaction product to customer and customer feel happy for it.

Example:

Thank - :) Thank you for your interest!
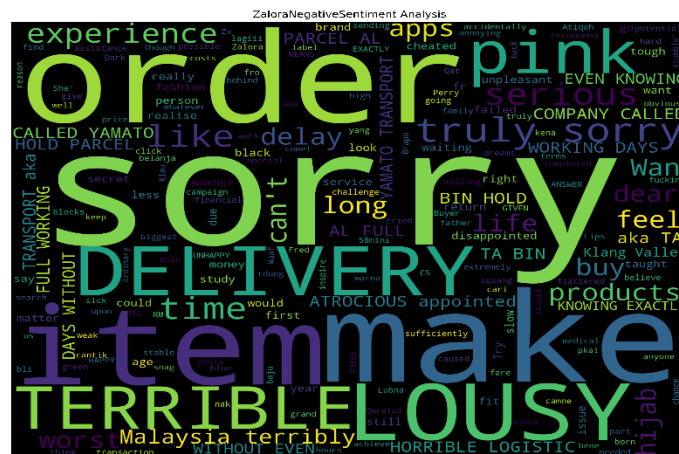
Sentiment(polarity=0.625) Positive

Type of comment – Product interest

Love - I love TOPMAN because it always offer the best in trendy fashion for men on the high street.

Sentiment(polarity=0.565) Positive

Type of comment – Product interest

Negative Sentiment WordCloud (Zalora)

For the positive sentiment wordcloud, we found out the sorry, order, DELIVERY, LOUSY and TERRIBLE are the most negative word in comment. 'Delivery' word was appeared because some of customer wait the Zalora item almost one week still haven't receive from Zalora.

Example:

Sorry - Hi! So sorry about that! You can try this link: https://www.zalora.com.my/skin-inc-limited-edition-disneys-beauty-and-the-beast-get-glown-kit-1231036.html [[SHARE]]

Sentiment (polarity= -0.625) Negative

Type of comment – Product Stock

order - My order no is 209991488, sorry for disturbing.

Sentiment (polarity= -0.5) Negative

Type of comment – Update order service

Delivery, lousy and terrible - Zalora Malaysia is terribly LOUSY and ATROCIOUS, appointed a LOUSY and TERRIBLE HORRIBLE LOGISTIC DELIVERY COMPANY CALLED YAMATO TRANSPORT.

Sentiment(polarity=-0.289) Negative

Type of comment – Customer and delivery service

Uniqlo

Uniqlo has huge number of view from the user but huge doesn't means good to company because the large number of view, the high possibility of negative view or positive view from the users. Uniqlo is suitable competitor to HahaNoYume because Uniqlo also sell same type of product like HahaNoYume also sell like baby kimono and women yukata.
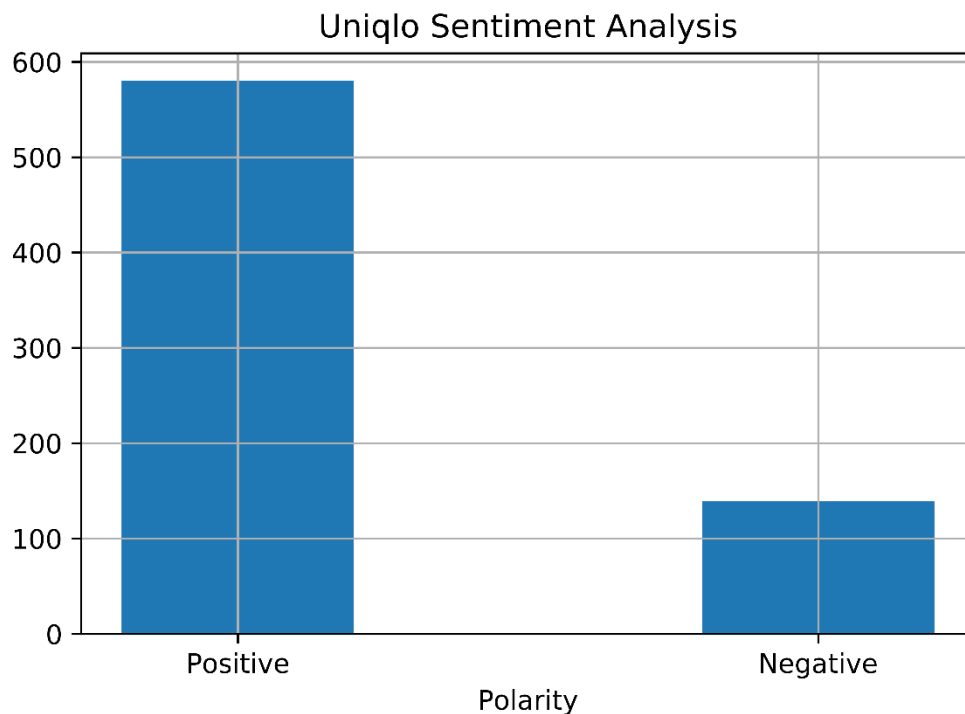
Same like HahaNoYume, we also take out the neutral sentiment of comment because the neutral comment is too many. Thus, we plot the positive and negative comment for comparison. According to the graph above, we can know the positive comment is more than negative comment, so view of user toward Uniqlo is positive. This means Uniqlo has more than 3 quarter 4 of customer satisfy Uniqlo product.

Before starting to sentiment analysis for Uniqlo comment wordcloud, we go through the wordcloud of comment for understand the user frequently topic. The figure below is the wordcloud of Uniqlo comment.

Uniqlo Comment WordCloud
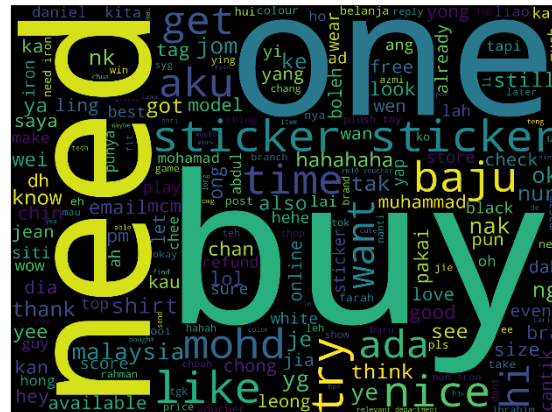
According the wordcloud of comment, we can know that the most frequently topic discussed by the user in the comment are sticker, one, buy, need, baju and nice. To know more detail about the wordcloud is positive or negative, we come out 2 wordcloud figure are positive and negative.

Positive Sentiment WordCloud (Uniqlo)

UniqloPositiveSentiment Analysis

For the positive sentiment wordcloud, we found out the ok, nice, good, free and please are the most positive word in comment. 'Nice' is means Uniqlo give a satisfaction product to customer and customer feel happy for it.

Example:

Ok – Okay this Sunday we check the shop

Sentiment (polarity = 0.5) Positive

Type of comment – New product or promotion

Nice - Thank you Uniqlo, I like t-shirt with v-neck very much because comfort and nice even indoor or outdoor:-)

Sentiment (polarity = 0.453) Positive

Type of comment - Product quality

Good - already got refund last week, finally settled after more than one month.they did not deduct any cost for the delivery, that is good. Because I think that is my mistake to chose the wrong size,I should bear the cost for delivery.

Sentiment (polarity = 0.3) Positive

Type of comment -Customer Service

Negative Sentiment WordCloud (Uniqlo)

For the positive sentiment wordcloud, we found out the sorry, order, black, game and time are the most negative word in comment. 'Game' word was appeared because most of customer is not satisfy about the promotion event game that organized by Uniqlo is unfair to them.

Example:

Sorry - Hey Angela, so sorry to hear about your unpleasant experience. We will send you a message for more information regarding your refund. Once again, sorry!

Sentiment (polarity = -0.575) Negative

Type of comment – Customer experience

Game - It is a cheat game. No way can make it to the top list.

Sentiment (polarity = -0.4) Negative

Type of comment – Promotion game competition

Complaint - so do you believe it to be a fair game? Although I complaint but not response.

Sentiment (polarity = -0.3) Negative

Type of comment – Complaint

Procedure for determining aspect and its sentiments

For the last task, we had to identify the important aspects and sentiments that are being discussed by the users towards Haha No Yume. What we implemented was, we did the same method as the previous task in 2.1. These aspects are chosen just like the same method how we chose the opinion but rather than choosing the adjectives and adverbs, we began to choose only

```
[('QUALITY', 10), ('KIMONO', 7), ('PACKAGING', 6), ('BABY', 5), ('MAJORIE', 5), ('SERVICE', 5), ('THANK', 5), ('MESSA
GE', 4), ('SHOP', 4), ('BOX', 3), ('DAUGHTER', 3), ('BOY', 3), ('LOVE', 3), ('HI MAJORIE', 3), ('EVERYONE', 3), ('ROM
PER', 3), ('MATERIAL', 2), ('WORKMANSHIP', 2), ('PACKAGE', 2), ('ORDER', 2), ('OWNER', 2), ('HOPE', 2), ('KIDDO', 2),
('FABRIC', 2), ('NOTE', 2), ('FUTURE', 2), ('CUSTOMER SERVICE', 2), ('PIECE', 2)]
```

the noun and noun phrases. As a result, we obtained the data as shown below.

Lastly, from the aspects that we have obtained. We began to evaluate the semantic values of it. To evaluate the semantic values of it, we chose the dataset regarding from the task 2.1 which is the opinion. By this, we are able to calculate the semantic values based on the opinion and know is the aspect of it is positive, neutral and negative. From that, we are able to

```
QUALITY :              Positive =>  48.65     Negative =>  8.11
KIMONO :               Positive =>  42.42     Negative =>  18.18
PACKAGING :            Positive =>  17.65     Negative =>  11.76
BABY :           Positive =>  38.1      Negative =>  14.29
MAJORIE :              Positive =>  42.86     Negative =>  0.0
SERVICE :              Positive =>  38.89     Negative =>  5.56
THANK :          Positive =>  25.0      Negative =>  5.0
MESSAGE :              Positive =>  54.55     Negative =>  0.0
SHOP :           Positive =>  46.67     Negative =>  0.0
BOX :            Positive =>  71.43     Negative =>  0.0
DAUGHTER :             Positive =>  47.06     Negative =>  17.65
BOY :            Positive =>  39.29     Negative =>  7.14
LOVE :           Positive =>  35.38     Negative =>  12.31
HI MAJORIE :           Positive =>  66.67     Negative =>  0.0
EVERYONE :             Positive =>  75.0      Negative =>  0.0
ROMPER :               Positive =>  56.52     Negative =>  8.7
MATERIAL :             Positive =>  77.78     Negative =>  0.0
WORKMANSHIP :          Positive =>  33.33     Negative =>  0.0
PACKAGE :              Positive =>  55.56     Negative =>  0.0
ORDER :          Positive =>  41.67     Negative =>  8.33
OWNER :          Positive =>  40.0      Negative =>  0.0
HOPE :           Positive =>  33.33     Negative =>  0.0
KIDDO :          Positive =>  0.0       Negative =>  75.0
FABRIC :               Positive =>  50.0      Negative =>  16.67
NOTE :           Positive =>  0.0       Negative =>  66.67
FUTURE :               Positive =>  50.0      Negative =>  0.0
CUSTOMER SERVICE :            Positive =>  33.33      Negative =>  16.67
PIECE :          Positive =>  72.73     Negative =>  9.09
```

obtained the result as below. Note that the below result only shows the positive and negative.