



"I tried."
-Anonymous, 5-Star Review

The Crisis of 'Lazy' Reviews: Detecting 'not useful' reviews on Shopee



Here's the sitch...

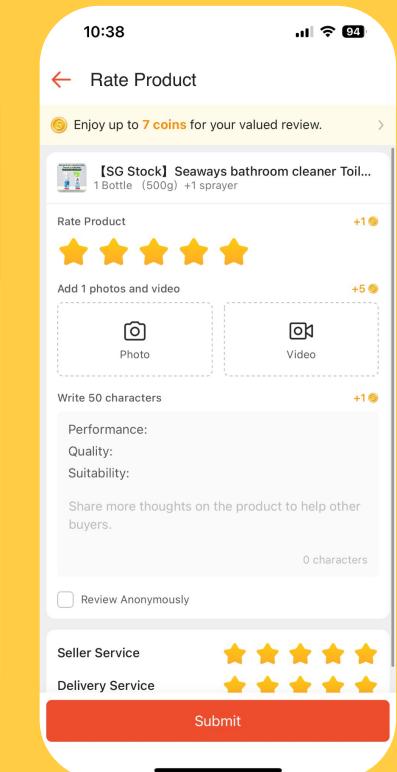
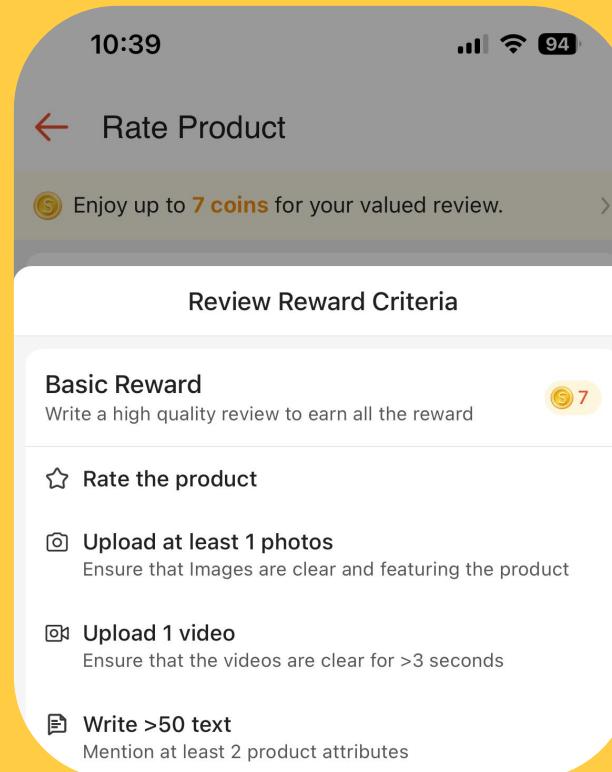
Users are **incentivized** to review their purchases.

**More comprehensive
= More 'Shopee coins'**

But!

They would be 'forced' to hit a **minimum character count AND post a photo AND video AND give a star rating** to hit the maximum reward.

The problem



So you get reviews like this.



Variation: 350ML-White + spoon

Quality: good

Performance: yet to try

Well received and well packed

Thank you seller

Have yet to use hope is good for hot oat for daily usage



chiwsf



Variation: 350ML-Grey + spoon

Quality: Suitable to make overnight oat

Appearance: ok

Receive it in good condition



07-05-2025 23:19



Helpful



rm2m7ekcf3



Variation: pink 45*14cm set

Suitability: ok

Quality: ok

Performance: ok

Yet to use to give any comments



23-07-2024 20:45



a*****a



Fast delivery and nice packaging. Looking forward to use it after exercise.



Malaysia | 11-03-2024 13:27



a*****n



Variation: 350ML-Yellow + spoon

Appearance: Good

Quality: Good

Performance: Good

Item received well with fast delivery.



04-05-2025 10:42

Helpful(2)





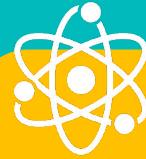
So why does this matter?

- 1 Users rely on reviews to make purchases
- 2 Shopee loses their revenue on reviews that are not useful for the next user

Project Objectives



**Provide insight
into Shopee
reviews**



**Develop an
initial model to
detect 'not
useful' reviews**



**Identify features
to investigate
further**

Things to highlight:
Data Limitations

- Only contains **2 columns**: product rating, text
- Heavy class **imbalance**
- Perception of usefulness is largely
subjective and **contextual**

What exactly would be considered the baseline to a 'not useful' review?

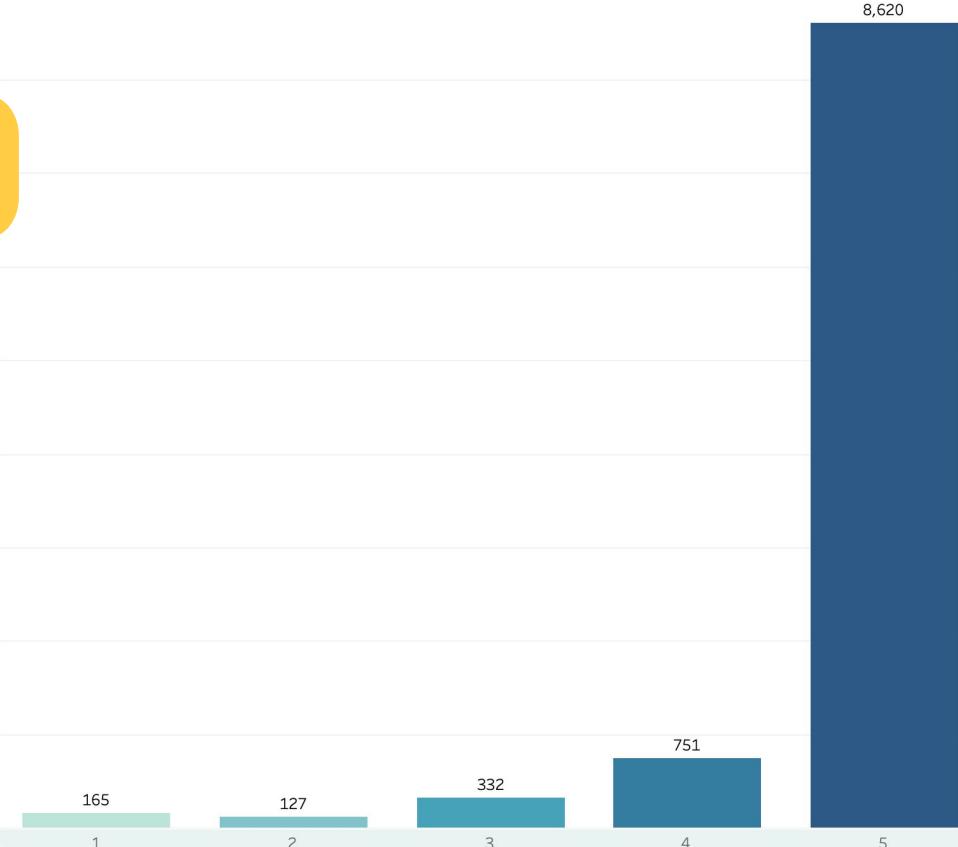
Reviews that explicitly indicate that a product has not been tried before being posted.

Analysis



Total no. of reviews

Label

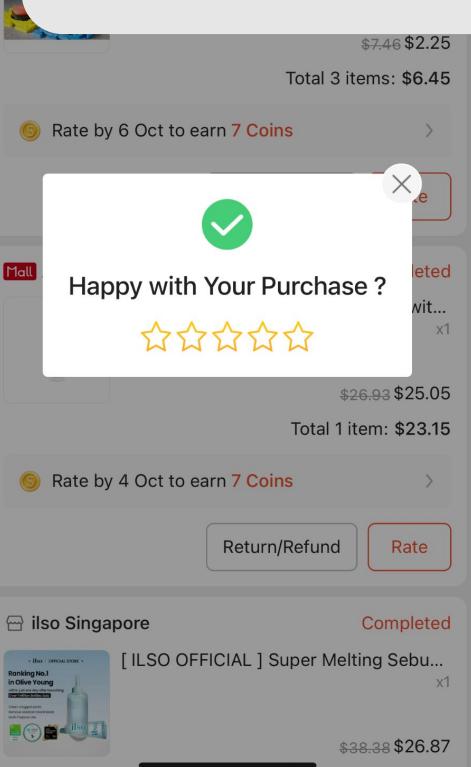


5-star reviews are the 'default'

- Typical pattern in product reviews
- Product's rating will always be disproportionately positive

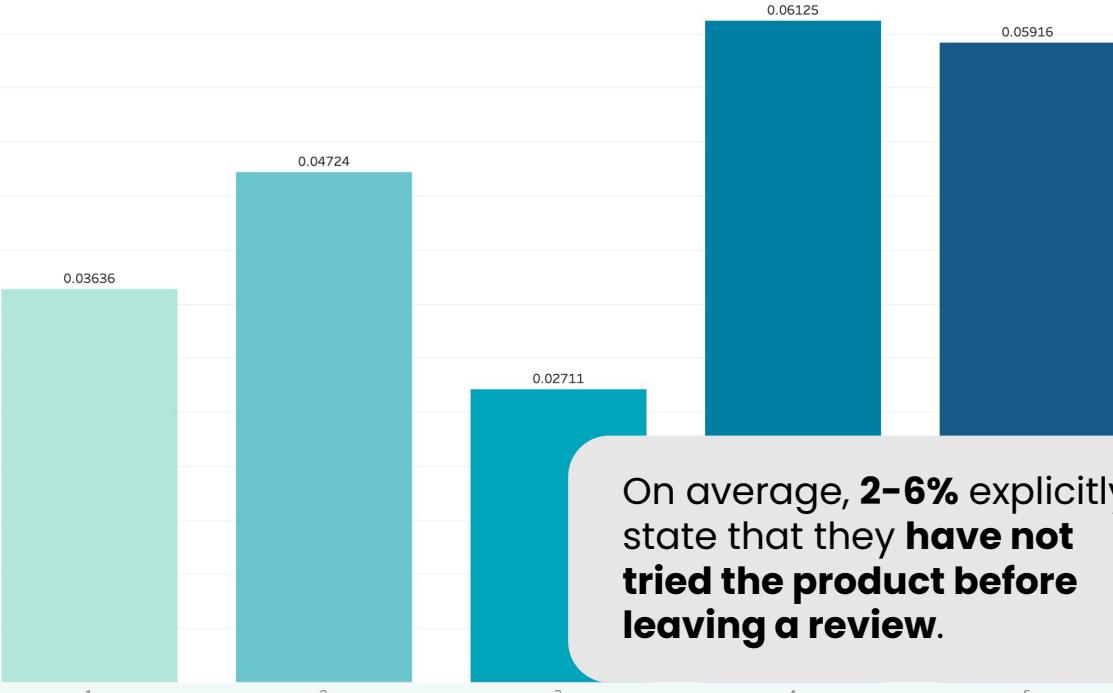
Why could this be the case?

Immediately
when users click
'order received'



Reviews containing "yet to try"

Counts how many reviews indicated that product was not tried before reviewing



Why might there be so many 5-star reviews?

On average, **2-6%** explicitly state that they **have not tried the product before leaving a review.**

[← Rate Product](#)Enjoy up to **7 coins** for your valued review.[SG Stock] Seaways bathroom cleaner Toil...
1 Bottle (500g) +1 sprayer

Rate Product



Add 1 photos and video

+7

When users go to the 'rate products' page

Share more thoughts on the product to help other buyers.

0 characters

 Review Anonymously

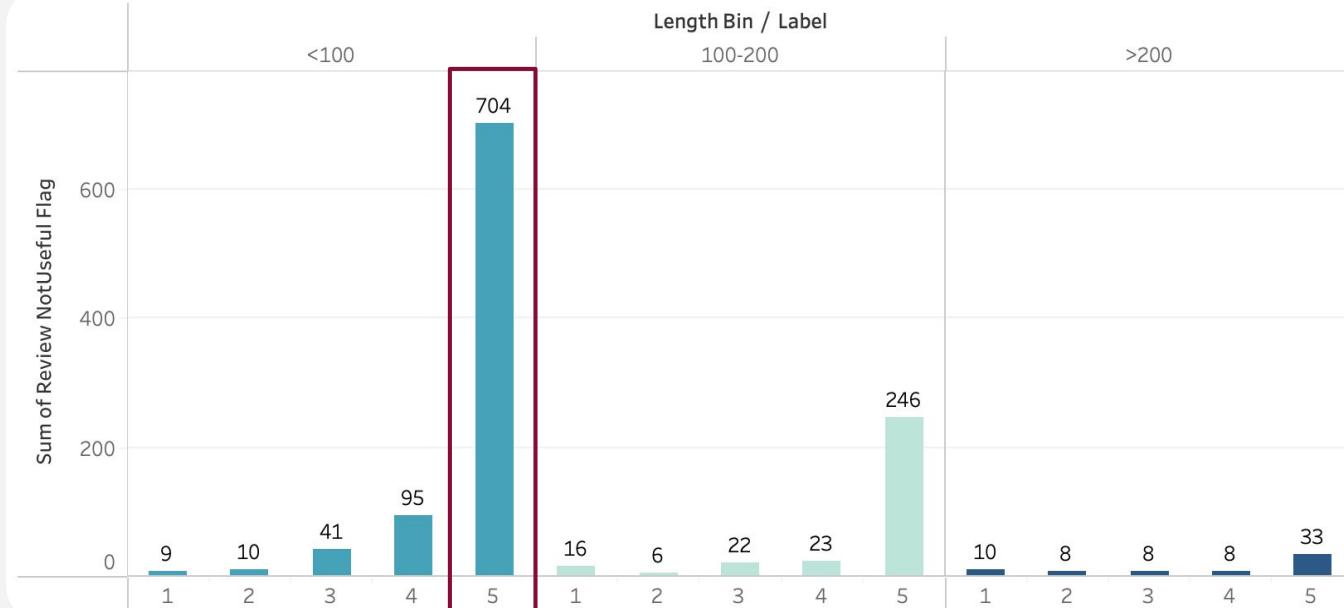
Seller Service



Delivery Service

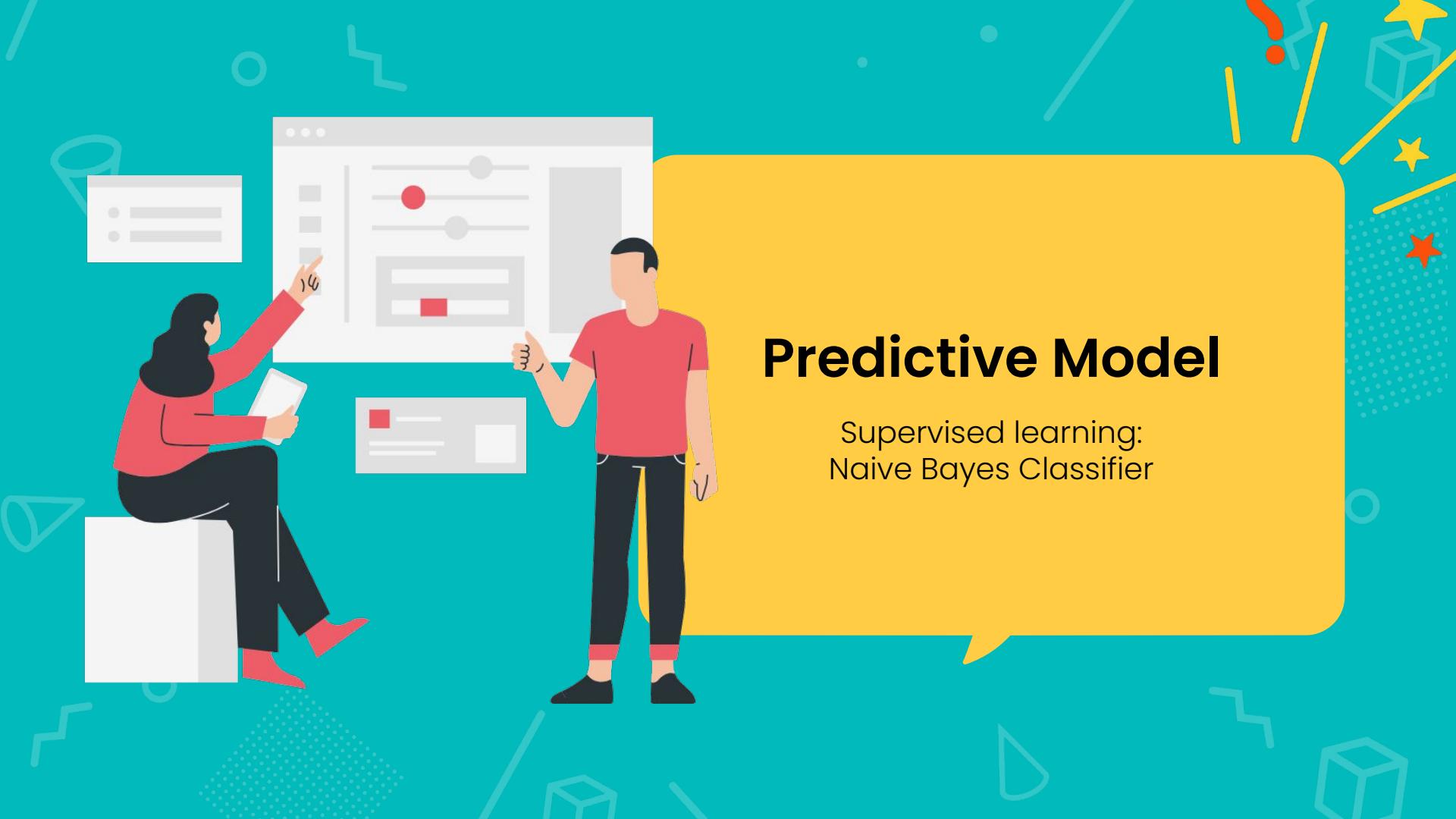
[Submit](#)

**Shorter reviews get flagged as
'not useful' more frequently**



Threshold for awarding 5-stars to a review: 'fast delivery' and 'good condition'





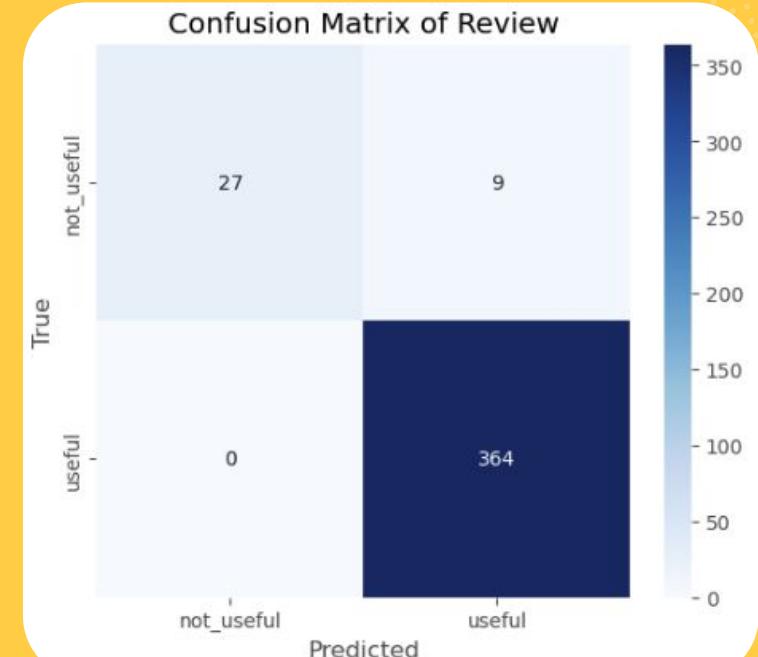
Predictive Model

Supervised learning:
Naive Bayes Classifier

Final Model Performance

Naïve Bayes Classification Report				
	precision	recall	f1-score	support
not_useful	1.00	0.75	0.86	36
useful	0.98	1.00	0.99	364
accuracy			0.98	400
macro avg	0.99	0.88	0.92	400
weighted avg	0.98	0.98	0.98	400

Naive Bayes Classifier



What this result means:

- Identifies a 'not_useful' review very accurately (precision: 1.00).
- Captures 75% of 'not_useful' reviews in the data, but misses 25% of them (recall: 0.75)

Tableau Interactive Dashboard

to monitor
'not useful' reviews

'Unhelpful Review' Analysis

Toggle the sidebars or click on individual bars to filter different criteria

Note: product categories are simulated by interpretation of data

Verdict

Star Rating

MainCategory

SubCategory

Top KWS

(All)

(All)

(All)

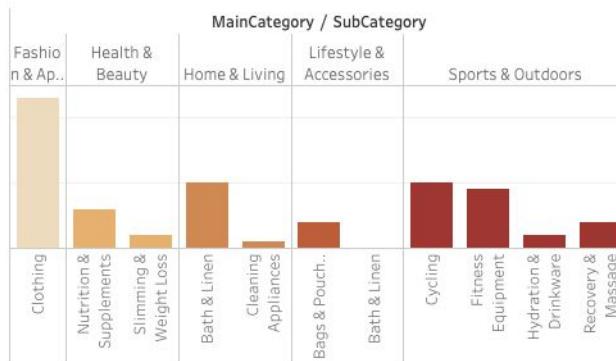
(All)

15

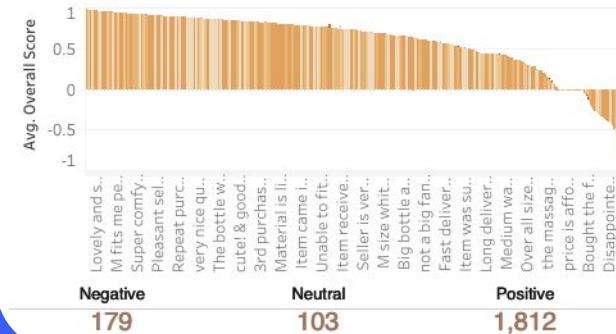


Reviews containing "yet to try"

Counts how many reviews indicated product was not tried before reviewing

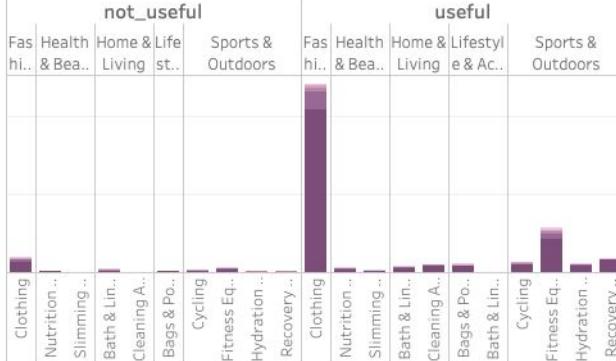


Avg. sentiment score across ratings



Usefulness Prediction

Counts how many reviews were predicted as useful or not useful



Top Keywords

Work Well

Quality Good Good Buy Receive Good

Delivery Take Good Quality Highly Recommend

Receive Good Condition Fast Delivery

Well Receive Good Condition

Delivery Fast Look Good

Thank Seller Fit Well

What can we do with these results?



Collect more data

- Product categories
- Price of product
- Brand
- 'Helpful' button



Refine predictive model

- Include more features in the model to further train on what 'usefulness' means

Qualitative analysis

- Supplement data insights with real user perceptions

Thanks (?)

Appendices

Things to highlight

Dataset Preparation

- ✓ Removed reviews with characters < 50
- ✓ Retained emojis, typos and punctuations
- ✓ Removed duplicate rows, empty cells, line breaks

User Research

 r/singapore • 4 yr. ago
eatchickenchop

Shopee reviews are the worst

Discussion

·5 stars - Order received! Have yet to use. Hope will be good

·5 stars - nicely packed. Don't know if good yet but will find out next time. Stay tuned for more updates

·5 stars - items received! Yet to try, hope can last.

·5 stars - 1st purchase yet to see effect.

·5 stars - Buy one Monday get on Wednesday. Recommend seller! Will try soon

I mean it's fine if a small group of people do this... But it's not. Majority of the reviewers are like this lol. Whyyyyy!

They haven't even try the item they bought! The minimum standard for them is as long as the items are delivered.. Those are not even reviews la...

Edit: like to add like a huge percentage of the review is also about the packaging

Item wrapped very nicely 5/5

The packaging very pretty 5/5

Ask u review item, they reviewing the art and craft...

The people have spoken.

★★★★★

Variation: 350ML-Grey + spoon, 350ML-Yellow + s...

Performance: seems like good

Appearance: pretty exquisite

Quality: should be good. glass n plastic with metal spoon.

★★★★★

Variation: 350ML-Grey + spoon

Item received in good condition. Product looks reasonable given the price. Delivery was quick as well. No complains.

z9176_v3g2

★★★★★

Variation: 350ML-White + spoon

🍒 Order well received today & fast delivery. 😊

⭐ Order placed on 31 Oct 24 and received by 2 Nov 24. 😊

📦 Thank you seller. 😊

Helpful(3) ...

See More

★★★★☆

Variation: 350ML-Grey + spoon

The cup is glass, looks good however I just can't fix the spoon correctly. So excited to use it for my overnight oats- hope it is useful

★★★★★

Variation: 350ML-White + spoon, 350ML-Grey + s...

delivery was fast, quality feels good for the price paid.

★★★★☆

Variation: 350ML-Yellow + spoon

Quality so so . But price is reasonable . Not yet use though

sample size: ~45

The people have spoken.

★★★★★

Variation: 350ML-Grey + spoon, 350ML-Yellow + s...

Performance: seems like good

Appearance: pretty cool

Quality: shiny spoon.

Why is there always no actual review of the products. But just ppl mentioning about the delivery/ "looks promising" kind ah

★★★★★

Variation: 350ML-Grey + spoon

Item received in good condition. Product looks reasonable given the price. Delivery was quick as well. No complains.

None of these are used! I'd want a review post-use about performance when using! Not predicted performance based on immediate look and feel lol

Helpful(3) ...

z9176_v3g2

★★★★★

Variation: 350ML-White + spoon

Order well received today & fast delivery. 😊

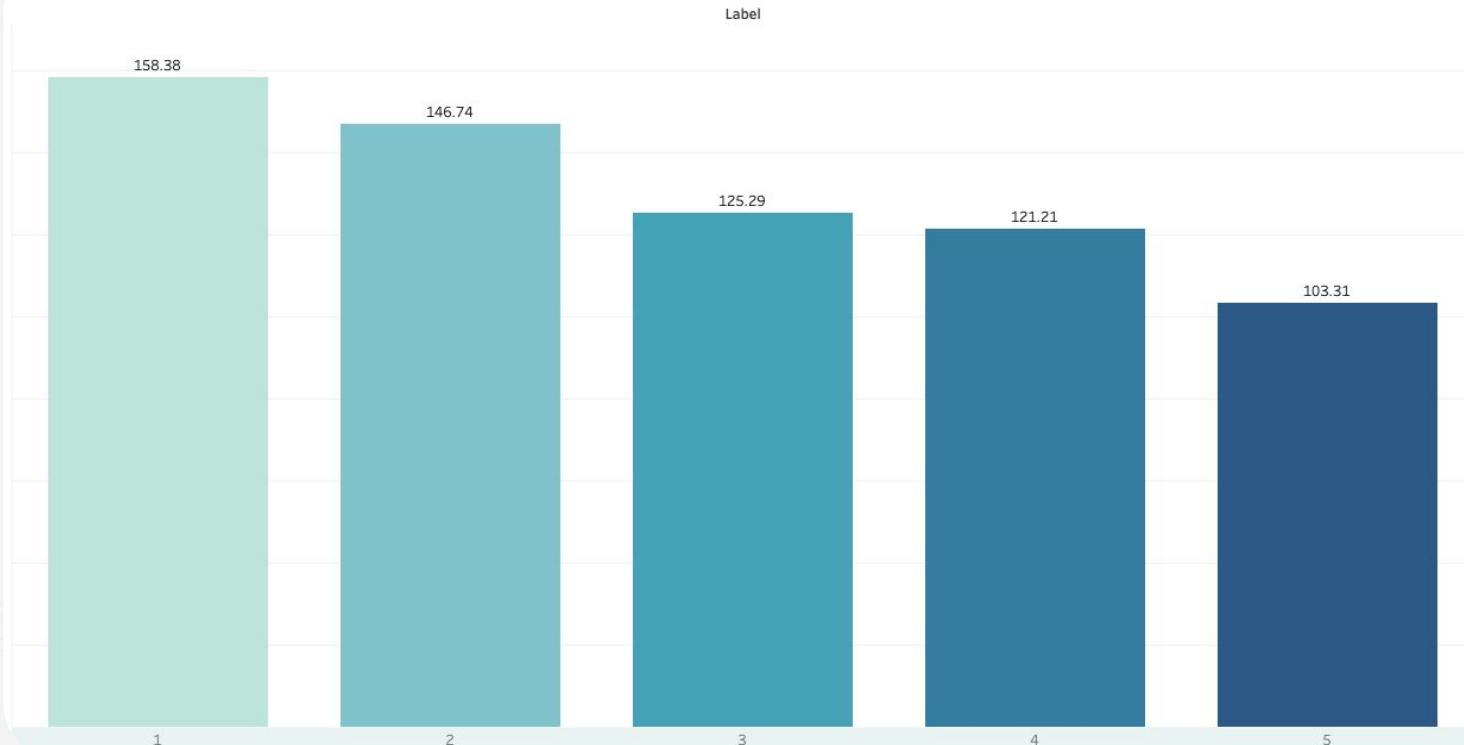
+ 24 and received by 2

And at most they have photo of the product. But never any review of using

sample size: ~45

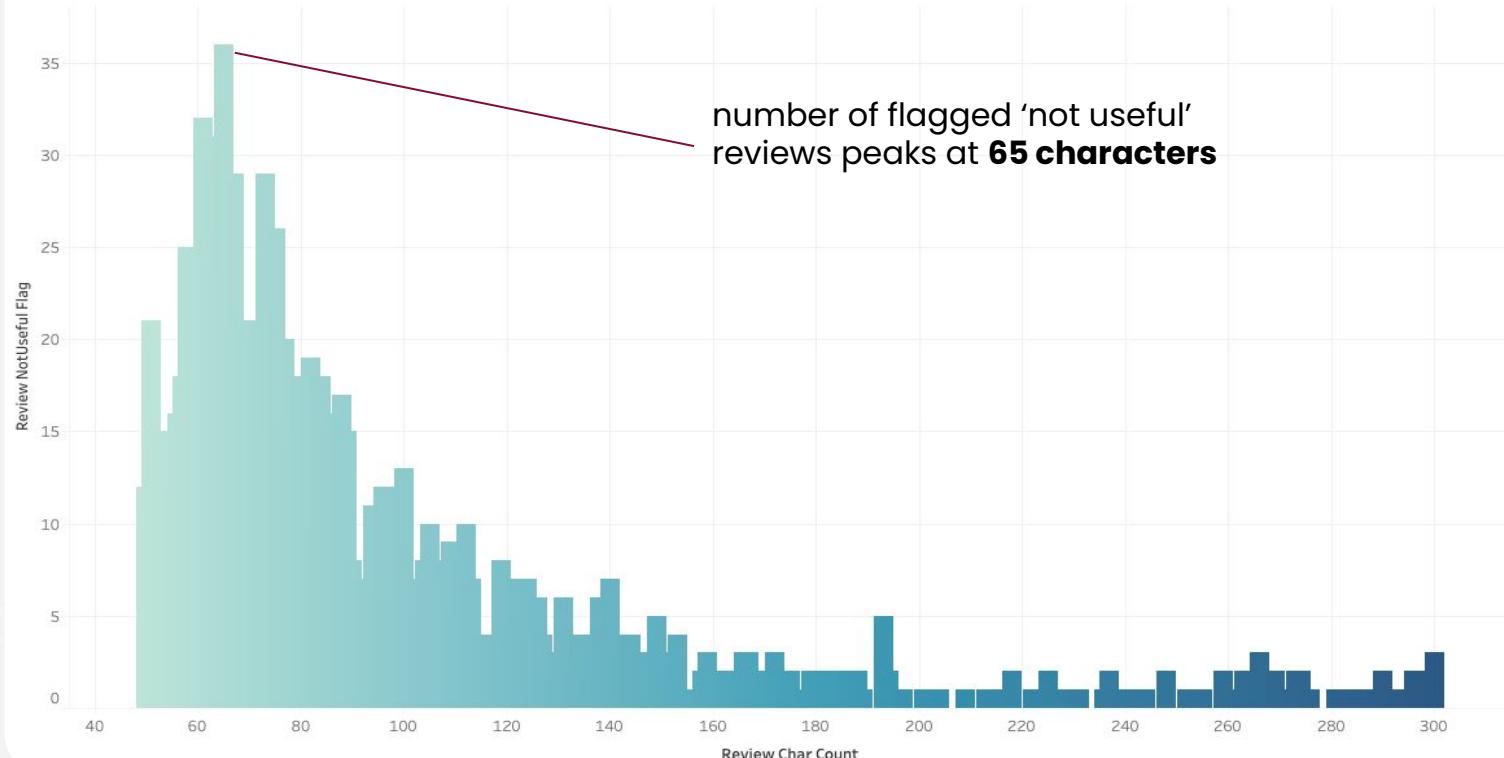
Reviewers write less when they are happy

Avg. character count



Shorter reviews get flagged as 'not useful' more frequently

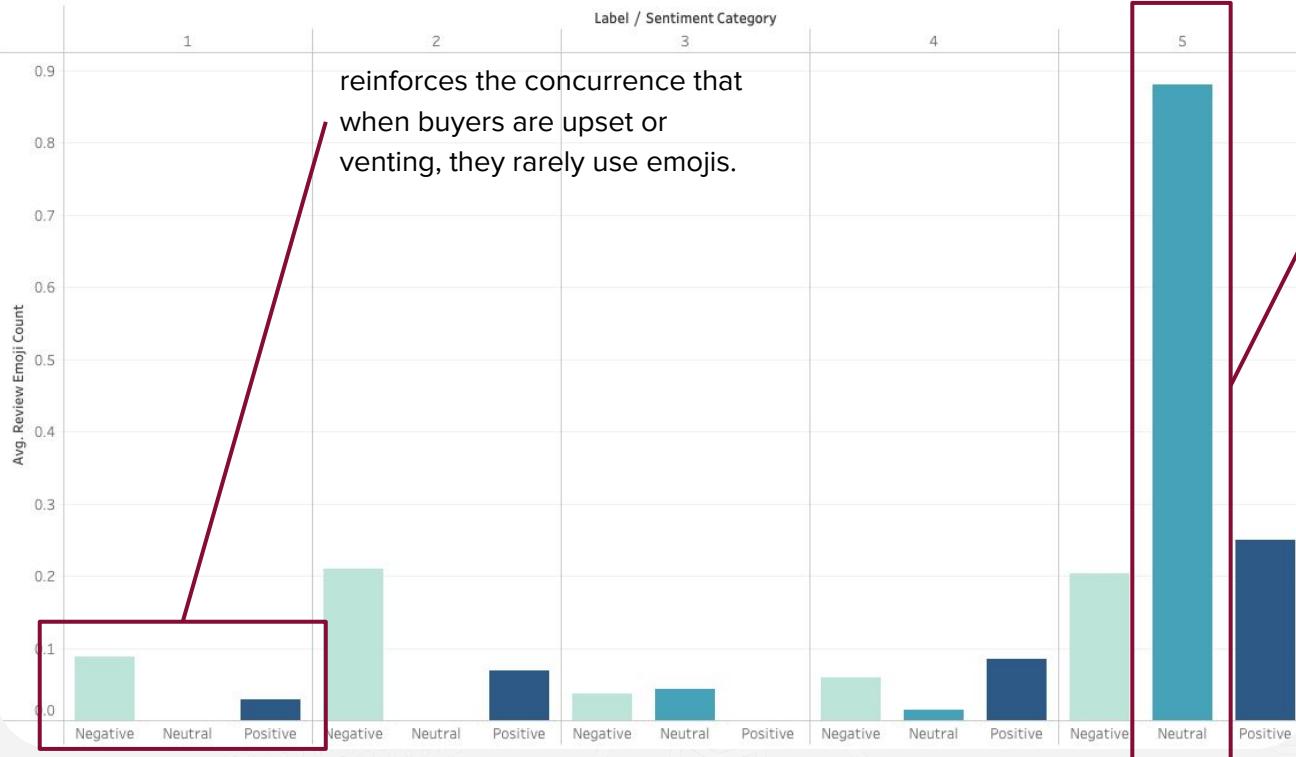
Character Count vs Usefulness



Emoji usage increase with star ratings

Average Emoji Count across Sentiments & Star Ratings

sentiment score < 0: negative; sentiment score = 0: neutral; sentiment score > 0: positive



reinforces the concurrence that
when buyers are upset or
venting, they rarely use emojis.

Neutral language is more
commonly used, then
emojis are included to
express more
enthusiasm/friendliness.

3-star reviews are more descriptive than 5-star reviews

Word cloud for 3-star reviews



Defective products and poor customer support drive 1-star reviews

A word cloud visualization of 1-star review data. The size of each word represents its frequency in the reviews. The color of the words indicates their relative frequency: blue for the most frequent words, green for medium frequency, and red for the least frequent words. Red boxes highlight specific words that likely represent key themes or issues in the reviews.

The most prominent words in the cloud include:

- Quality** (large blue word)
- Reply** (medium green word)
- Use** (large blue word)
- Bad** (large blue word)
- Refund** (medium green word)
- Task** (medium green word)

Other notable words include: delivery, service, price, respond, wrong,失望(disappoint), user, look, work, recommend, etc.

Shopee Review Analysis

Toggle the sidebars or click on individual bars to filter different criteria

Verdict	Product	Star Rating	Top KWS
(All)	all products	(All)	1

Star Rating

1

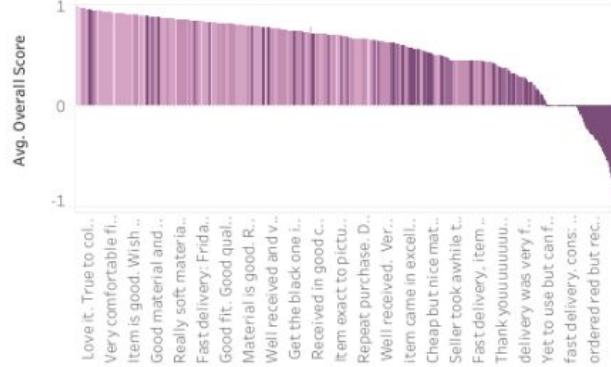
2

3

4

5

Avg. sentiment score across ratings



Total no. of reviews

Star Rating

1

2

3

4

5

165

127

332

751

Avg. character count

Star Rating

1

2

3

4

5

8,620

158.38

146.74

125.29

121.21

103.31

Usefulness Prediction

not_useful

34

24

71

126

980

131

103

261

625

7,640

Top Keywords

In Good Condition

Tableau
Interactive
Dashboard



The Process: Proof of Concept

- 01. Prepare training data with 2000 observations**
Clean > Sentiment Analysis (VADER) > Manual classification conditions > Correct labels > Load corrected sample
- 02. Train, test & evaluate model on train_test_split data**
Chosen model: Naive Bayes Classification
- 03. Train model with the initial 2000 observations**
- 04. Test on an unlabelled dataset of 10,000**
Manually audit on a small sample size

Key Features

Star Rating

- Reviewer's ratings from 1 to 5 which highlights their satisfaction score

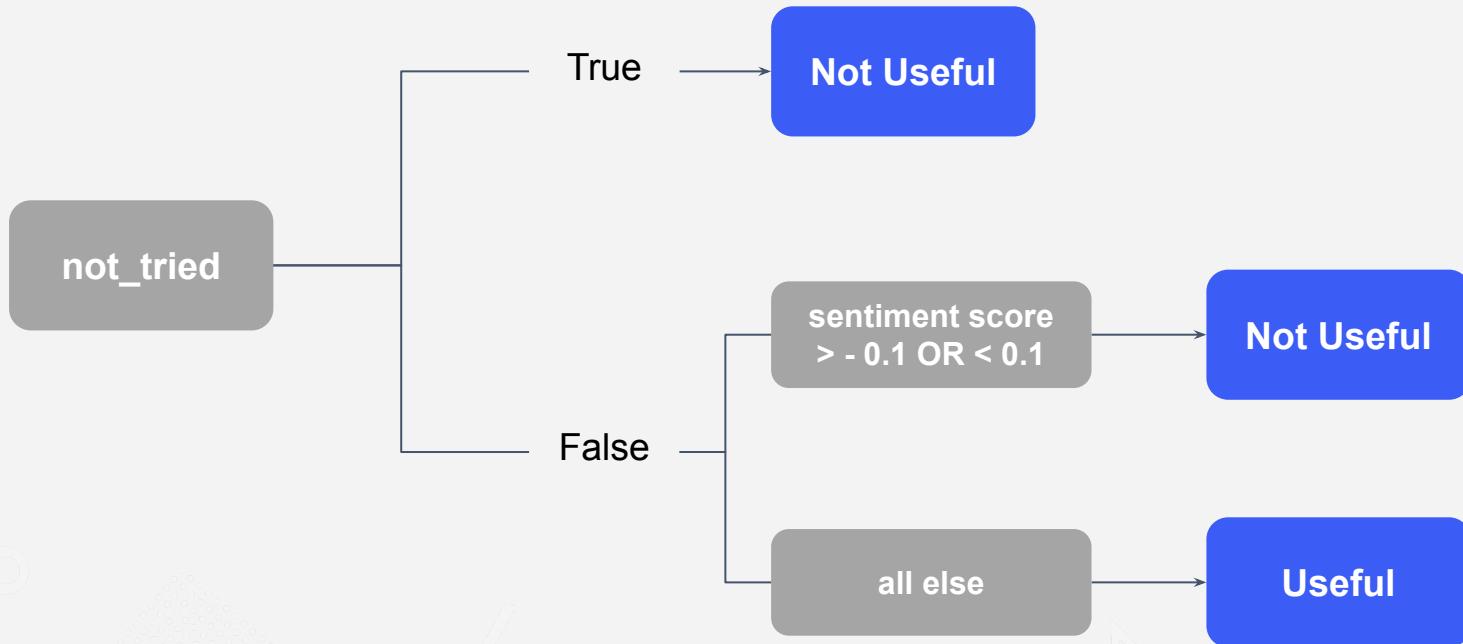
Keywords

- Extracted 2-3 word phrases in the text to train the model to identify keyword patterns

How I detected if a product is 'not tried'

```
unhelpful_patterns = [
    r"(?:can(?:not|n't)\s+wait\s+to\s+(?:try|use))", # "cant/ can not wait to try" or "cant/ can not wait to use"
    r"(?:\bwait\s+to\s+try\b)", # "wait to try" (without "can")
    r"(?:\byet\s+to\s+try\b)", # "yet to try"
    r"(?:\bupdate(?:\s+again)?\s+after\s+trying\b)", # "update again after trying" or "update after trying"
    r"(?:\bhave\s+not\s+tr(?:y|ied)\b)", # "have not try/ tried"
    r"(?:\bhaven't?t\s+tr(?:y|ied)\b)",# "haven't tried/ havent tried"
    r"(?:\byet\s+to\s+use\b)", # "yet to use"
    r"(?:\bnot\s+yet\s+test(?:ed)\b)", # "not yet tested" ("tested" optional "-ed")
    r"(?:\bhaven't?t\s+test(?:ed)\s+yet\b)", # "haven't tested yet" / "havent tested yet"
    r"(?:\b(?:will\s+)?test\s+soon\b)", # "(will) test soon"
    r"(?:\b(?:will\s+)?try\s+soon\b)", # "(will) try soon"
    r"(?:\byet\b)", # standalone "yet" (word-boundary)
    r"(?:\bhopefully(?:\s+it)?\s+works?\b)", # "hopefully it works" / "hopefully works"
    r"(?:\bhoping\s+it\s+works\b)", # "hoping it works"
    r"(?:\bhope(?:\s+it)?\s+works?\b)", # "hope it works" / "hope it works well" (covers "hope" + "works")
]
```

How was 'not useful' detected within the model on training?



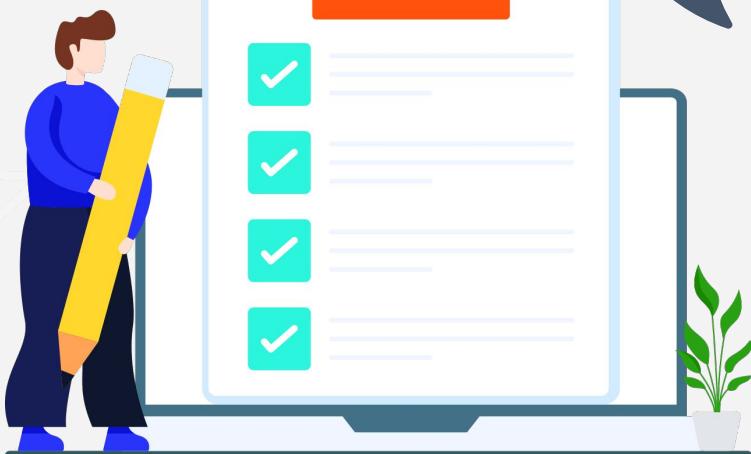
Textblob Sentiment Analyzer (NLTK)

	label	text	word_count	char_count	cleaned_reviews	sentiment_polarity
1399161	5	Well packed and prompt delivery. Great service...	15	123	well pack prompt delivery . great service ! re...	0.500000
114836	4	A bit overpriced for cardboard lmao but my cat...	16	76	bit overprice cardboard lmao cat like guess 's...	0.550000
981682	4	Comfy!! But I bought a size too small... would...	18	93	comfy !! buy size small ... would recommend b...	-0.031250
1068226	5	Received item in good condition. Tried and wor...	11	71	receive good condition . try work well . thank...	0.366667
370204	5	Nicely packed. Seems nice	4	25	nicely packed . seem nice	0.600000
...
1431905	5	Item took about a week to came in, all good an...	16	74	take week come , good perfect . yet test	0.850000
1416679	5	Item received with nice wrapping. Item as desc...	24	135	receive nice wrapping . describe . highly reco...	0.340000
1486906	4	Okay, materials is rough.	4	26	okay , material rough .	0.200000
426638	5	Delivery took 2 weeks, items safely bubble wra...	18	101	delivery take 2 week , item safely bubble wrap...	0.300000
160173	5	Very light and rather good quality, though it ...	25	141	light rather good quality , though look feel q...	0.355000

Vader Sentiment Analyzer (NLTK)

	label	text	word_count	char_count	cleaned_reviews	sentiment_polarity
43369	5	Receive them today. Fast delivery and size was...	14	89	receive today . fast delivery size perfectly c...	{"neg": 0.0, "neu": 0.455, "pos": 0.545, "comp": ...}
511649	5	Receive the items in gd condition. Seller bubb...	11	65	receive item gd condition . seller bubble wrap...	{"neg": 0.0, "neu": 1.0, "pos": 0.0, "compound": ...}
46438	5	Nice product. Very soft cotton. Abit long for ...	18	101	nice . soft cotton . abit long . 1 size small ...	{"neg": 0.0, "neu": 0.482, "pos": 0.518, "comp": ...}
692708	3	It says bust size up to 120cm can fit, I'm 110...	50	242	say bust size 120 cm fit , ' 110 , fit top str...	{"neg": 0.068, "neu": 0.554, "pos": 0.378, "co...}
1464706	5	Pretty colors. 💕💕💕So happy with this purchase!...	14	85	pretty color . 💕💕💕 so happy purchase ! selle...	{"neg": 0.0, "neu": 0.234, "pos": 0.766, "comp": ...}
...
349452	5	Nice nice, pretty straws. The multi colour one...	37	217	nice nice , pretty straw . multi colour one su...	{"neg": 0.081, "neu": 0.461, "pos": 0.458, "co...}
1012149	5	Bought 5 items rcvd 3 items.. however, rcvd it...	23	121	buy 5 item rcvd 3 item .. however , rcvd good ...	{"neg": 0.0, "neu": 0.711, "pos": 0.289, "comp": ...}
81567	4	Very fast! Receive within a week. My child lik...	39	195	fast ! receive within week . child like . bad ...	{"neg": 0.178, "neu": 0.435, "pos": 0.388, "co...}
1346820	5	Very nice very high quality deliver on time.wo...	11	70	nice high quality deliver time.would recommend...	{"neg": 0.0, "neu": 0.485, "pos": 0.515, "comp": ...}
869093	5	Always buy from this seller. Good price	7	39	always buy seller . good price	{"neg": 0.0, "neu": 0.58, "pos": 0.42, "compou...}

Test on 10k reviews



Manual audit results

Label	Total Count	Assessed	Corrected	Final Count
not_useful	466 (4.66%)	400	FN: 36 (9%)	364
useful	9534 (95.34%)	400	FP: 2 (0.5%)	398

10k manual audit (0 > 1)

label	text	y_pred_nt	corrected
3753	5 Abit heavy on the gun side. But I hope that it works, will try it after exercising	0	1
3984	5 Looks okay. It doesn't suck on wooden floor. Yet to try on other floors.	0	1
3993	5 Simply love it! Suction is good!! I cant wait to say bye bye to my tummy!! No more excuse for doing up sit-up anymore. Haaa	0	1
4005	5 It's great! Tested out with situp! Can't wait to clear away my 1 pack. Fast delivery too! Recommended this!	0	1
4011	5 Got the parcel quite fast. Packing was alright, easy to install and the suction is good. Have yet to use it.	0	1
4240	5 Items came as described and quality looks okay! Can't wait to try it out :)	0	1
4487	5 Item seems pretty durable unlike my previous. Cream heats up tummy. Do not use too much of it. Cream works or does not, yet	0	1
4660	5 Item was promptly delivered and came well-packaged. The tool and the different attachments are nicely sorted out in a bag. Ha	0	1
4852	1 I never received the order. Seller contacted me and said that item isn't available, and asked me to initiate refund from Shope	0	1
5408	5 The package came in quite dented but the item not broken so im okie with it. Item came earlier then expected! Its easy to fix it.	0	1
5705	5 Fast delivery. Looks like a flimsy item & super light & flat. Yet to try out to see if the pouch can contain my mobile phone & my stu	0	1
5850	5 Item received in a nice packing. Received the yellow version, thin and stretchy. Yet to use	0	1
5857	5 Super nice packaging!! I'm super happy with the buys!!! Can't wait to try it out!! Shipping is relatively fast as well!!	0	1
6273	5 The product is delivered as described. Did not come with instructions on how to wear but can find them online. Overall happy w	0	1
6395	1 Status show delivered but I have yet to receive my item. All support say is item delivered but where is my item!!!	0	1
6737	3 it is only 79cm x 28cm not 90cm as described. 1 to 2cm difference is acceptable but 11cm is rather ridiculous. Anyway yet to tr	0	1
7296	5 Acceptable Free Delivery Ordered 9th Sep 2019 Received 18th Sep 2019 2 flashing and 1 non flashing modes Very bright Have y	0	1
7328	5 Received the green one. Top and bottom doesnt really match...the tag shows price at 65.90... Looks like a value buy! Yet to try it	0	1
7842	5 Order received in good condition, though material is a bit too light. Yet to try it, hopefully will serve its purpose well.	0	1
8533	5 Received with thanks! The items came in their individual bags and the quality seems legit. Have yet to try tho. The pants had a s	0	1

10k manual audit (1 > 0)

	label	text	y_pred_nt	corrected	
188	5	it takes awhile for the shipment to arrive. item was well packed	1	0	