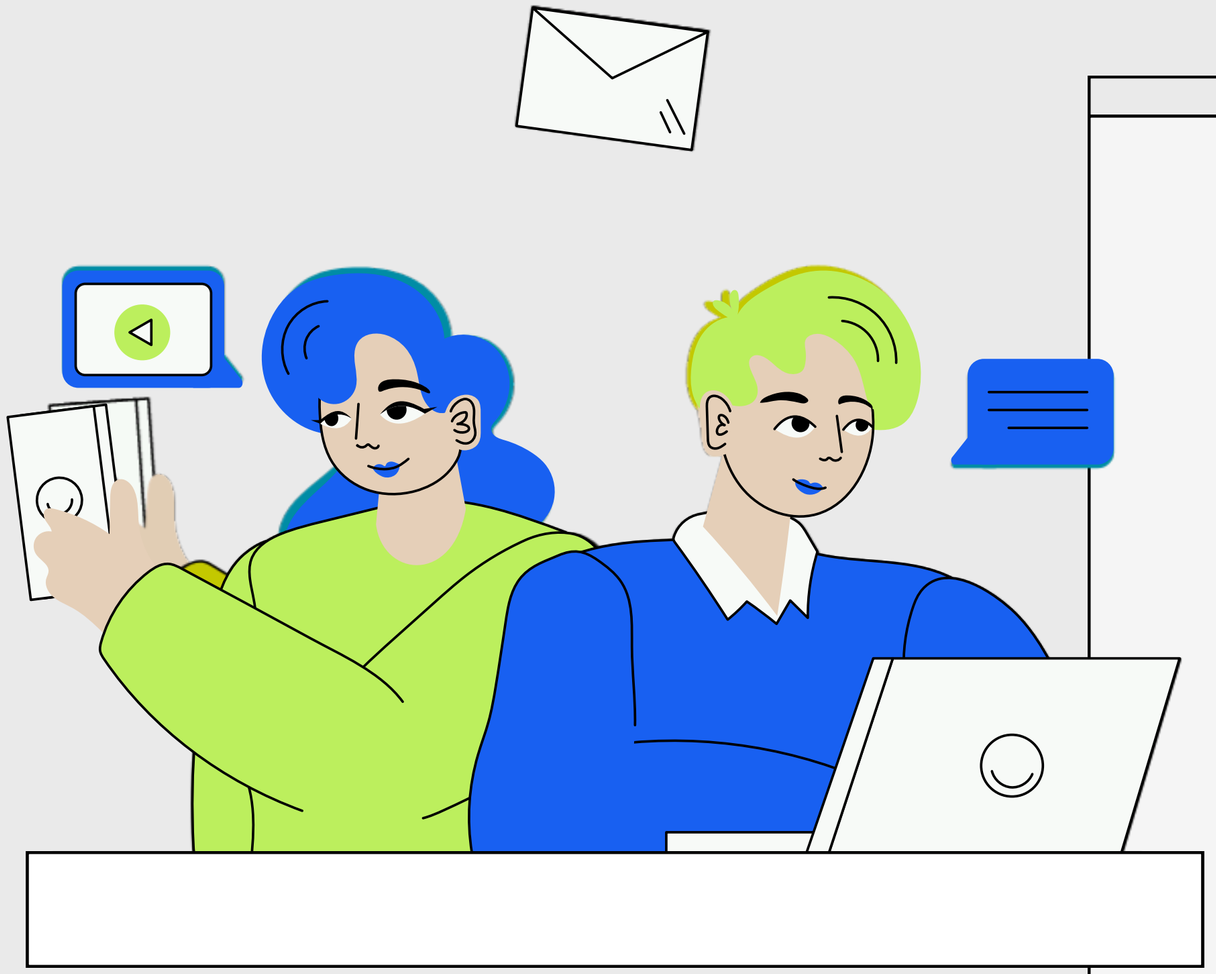
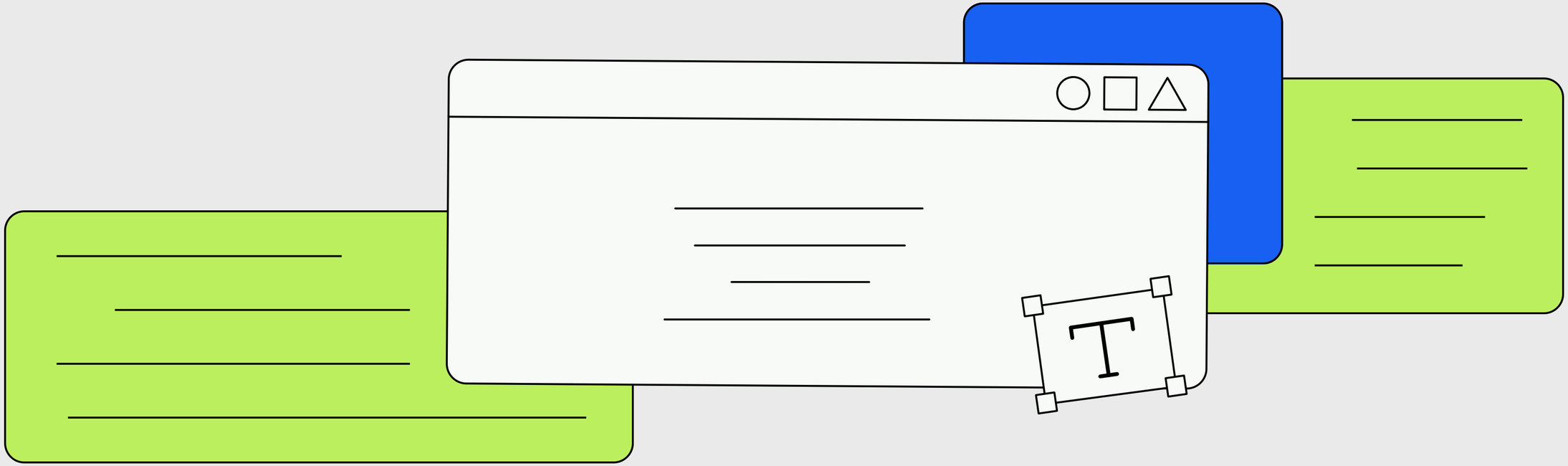


UNSTRUCTED DATA FOR MARKETING ANALYTICS

CONTENTS

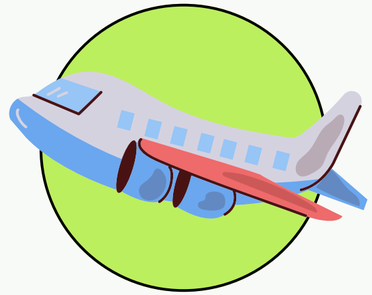


SENTIMENT, POLARITY AND SUBJECTIVITY

T-Mobile

Positive sentiment with polarity ~0.26

Moderate subjectivity ~0.47



American Airlines

Positive communication style with polarity ~0.25

Lower subjectivity compared to T-Mobile ~0.40

Coca-Cola

Positive sentiment with polarity ~0.23

Slightly less subjective on average ~0.40

Target

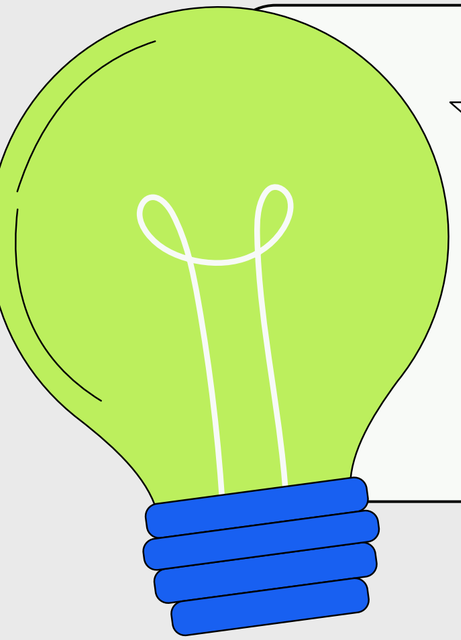
Neutral to positive sentiment with polarity ~0.15

Least subjective among the brands analyzed ~0.39

OBSERVATIONS

	brand	avg_polarity	avg_subjectivity	tweet_count
1	T-Mobile	0.258456	0.468700	500
3	americanair	0.245873	0.402084	642
0	Coca-Cola	0.229149	0.396011	396
2	Target	0.151291	0.388676	520

Based on the number of Total Replies, we see that T-Mobile is the Brand that engages more users.



T-Mobile: Tweets often express positive sentiments and contain a mix of opinions and factual information

AmericanAir: Tweets have a slightly more objective approach.

Coca-Cola: Tweets are similar to American Airlines in terms of positivity but slightly less subjective.

Target: The communication style leans more towards sharing information or neutral content.

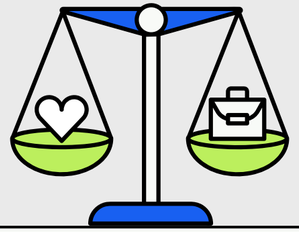
Paralinguistic (nonverbal) cues

	Brand_Names	Total_Likes	Total_Retweets	Total_Quotes	TPL_Index	\
0	Coca-Cola	436624	51438	26878	285.0	
1	T-Mobile	296742	308984	39954	601.0	
2	Target	1225090	260642	45509	254.0	
3	americanair	169903	26918	6540	286.0	

	Emoji_Index
0	242.0
1	426.0
2	160.0
3	192.0

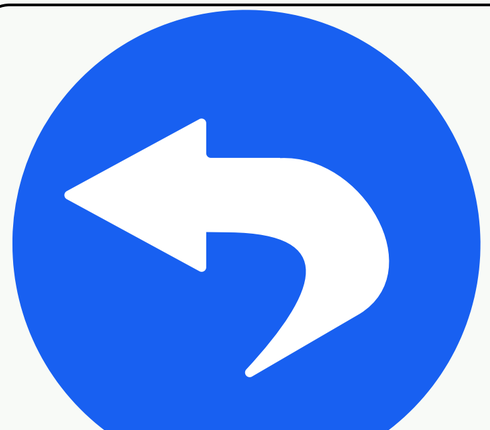
- **T-Mobile:** Leads in TPL Index, Emoji Index, and Retweets. High engagement.
- **American Airlines:** Second in TPL. Lower engagement and emoji use.
- **Target:** Leads in likes and quotes. Not guaranteed high TPL or engagement.
- **Coca-Cola:** Second position. Moderate engagement and emoji use.

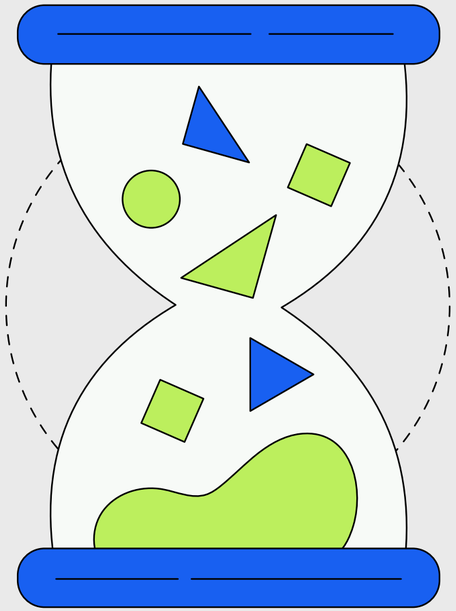
INSIGHTS

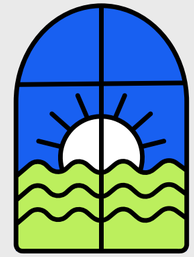


More replies,
more engagement.

Based on the number of Total Replies, we see that T-Mobile is the Brand that more engages users.



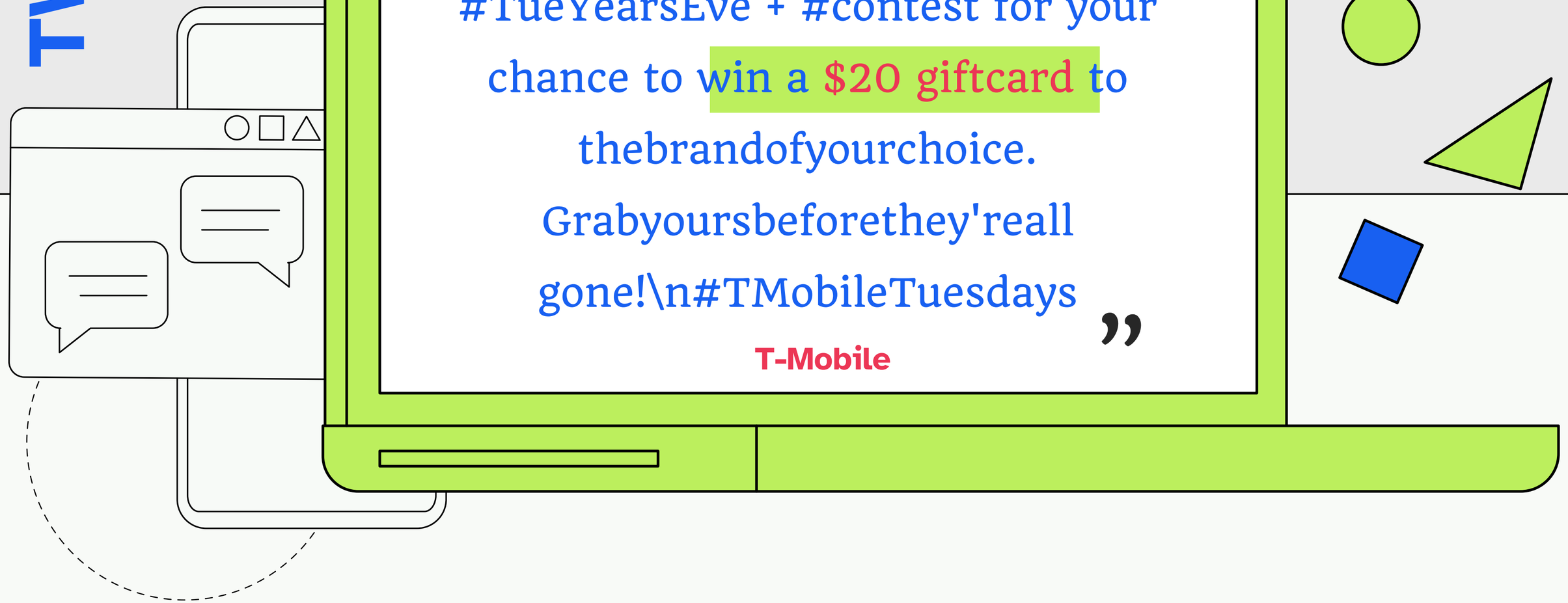




Promotion & Irrevelant (engaging questions)

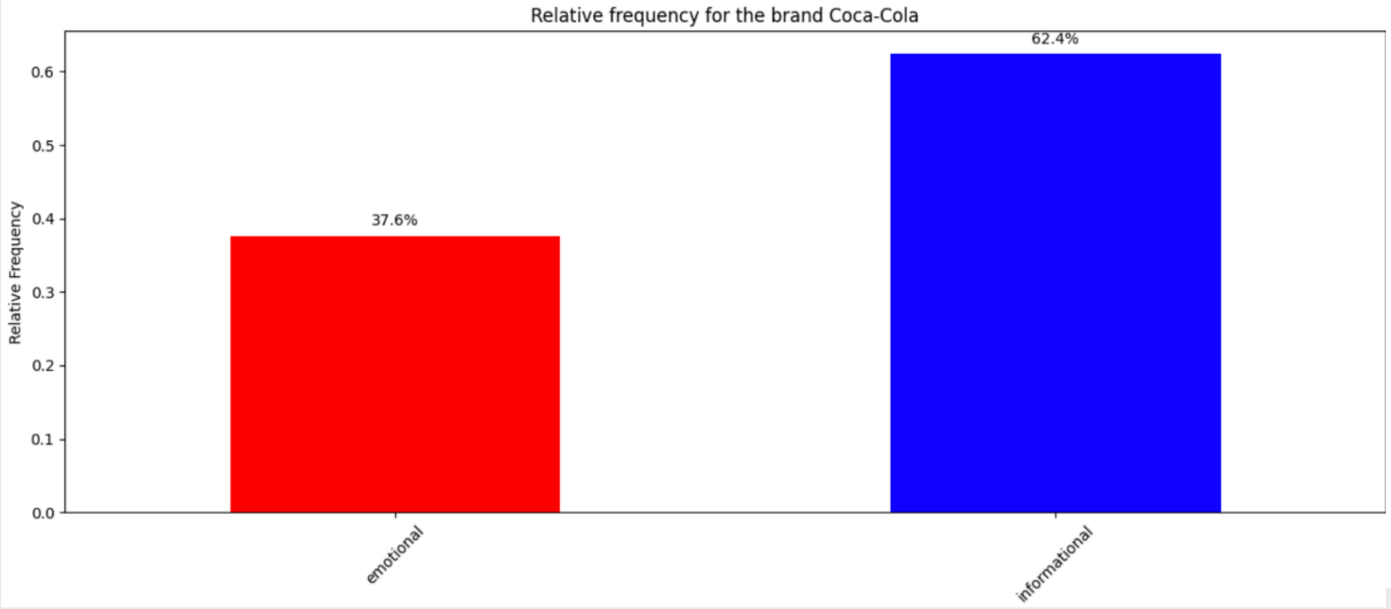
- When does a burger taste the best?
- What do pumas do in their free time?
- What's your favourite responsibility to ignore on vacation?

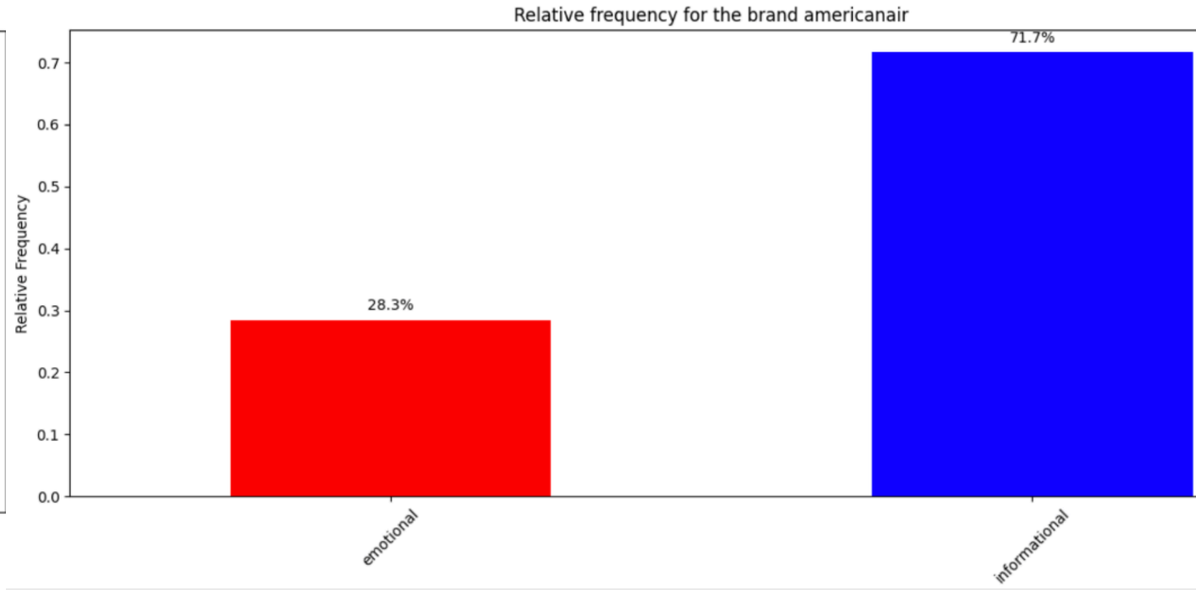
TWEET



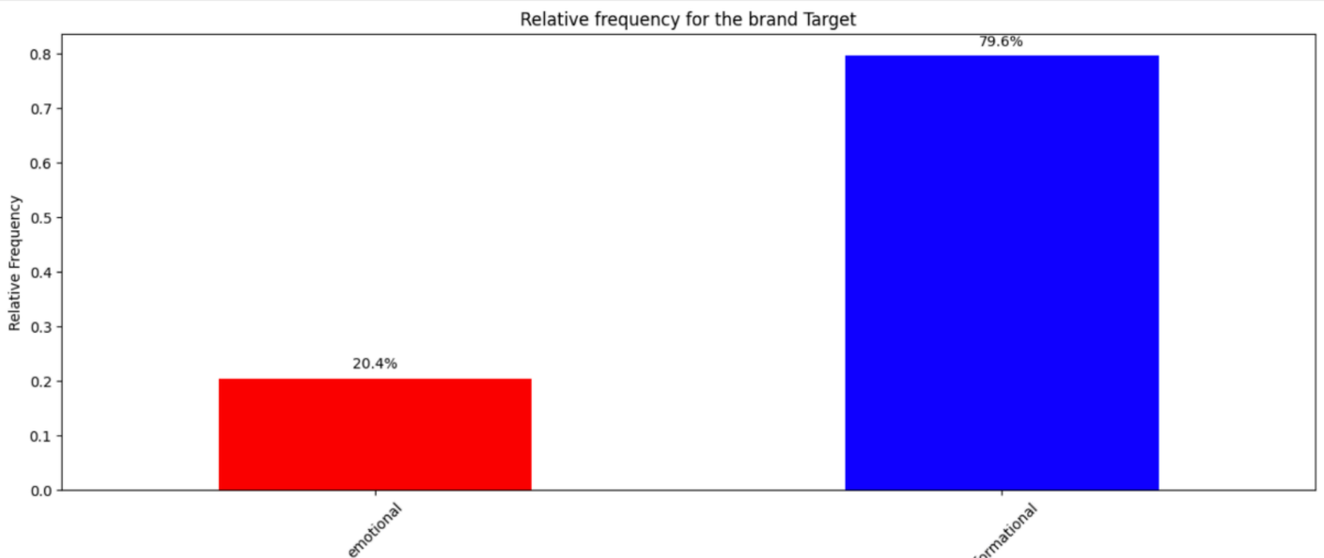
“New year, newyou, new $20 giftcard🤑 \nReplywith #TueYearsEve + #contest for your chance to win a $20 giftcard to thebrandofyourchoice. Grabyoursbeforethey'reall gone!\n#TMobileTuesdays”

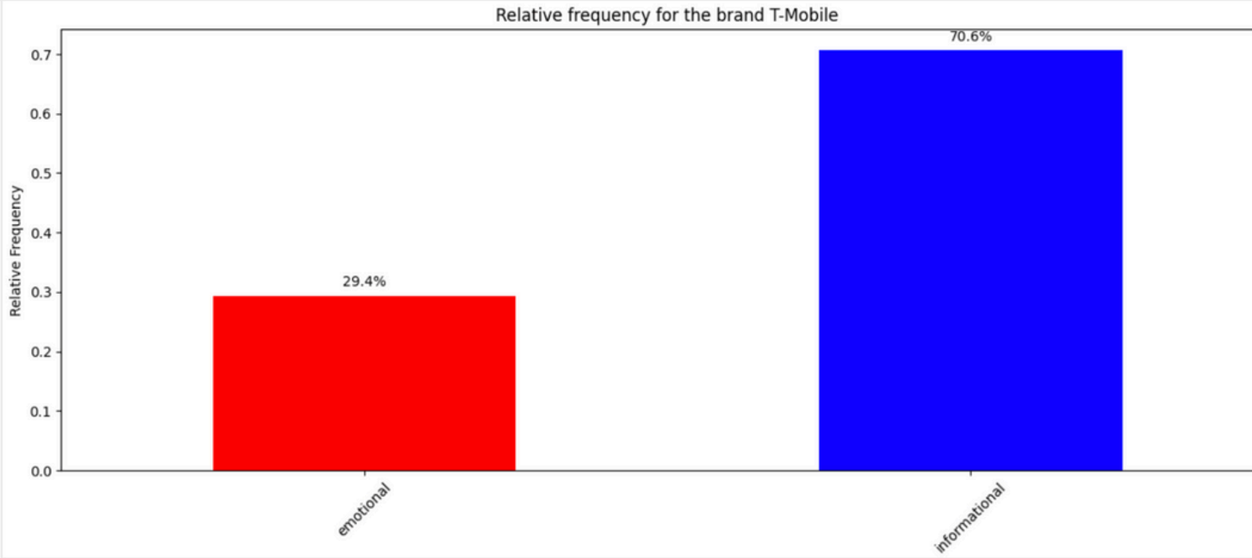
T-Mobile





DATA ANALYSIS USING SIMPLE TONIC CLASSIFICATION





- The model explains only 2.1% of the ‘likes’ variation.
- ‘Likes’ increase with TPL_Index, showing a positive correlation.
- Emoji_Count and TPL_Index are significant predictors of ‘likes’.
- There’s a concern about *multicollinearity*, meaning some predictors are highly correlated, affecting the model’s estimates.
- The model has large coefficients for emotional_score and informational_score could be due to multicollinearity.

```
                            OLS Regression Results
==============================================================================
Dep. Variable:                  likes   R-squared:                       0.021
Model:                            OLS   Adj. R-squared:                  0.016
Method:                 Least Squares   F-statistic:                     4.919
Date:                Wed, 10 Apr 2024   Prob (F-statistic):           1.63e-05
Time:                        15:28:22   Log-Likelihood:                -16196.
No. Observations:                1646   AIC:                         3.241e+04
Df Residuals:                    1638   BIC:                         3.245e+04
Df Model:                           7
Covariance Type:            nonrobust
===========================================================================================
                              coef    std err          t      P>|t|      [0.025      0.975]
-------------------------------------------------------------------------------------------
const                   -8.145e+09   3.41e+09     -2.388      0.017   -1.48e+10   -1.45e+09
sentiment_subjectivity  -710.4693    425.455      -1.670      0.095   -1544.962     124.023
sentiment_polarity      -480.4407    485.072      -0.990      0.322   -1431.868     470.986
emotional_score          8.145e+09   3.41e+09      2.388      0.017    1.45e+09    1.48e+10
informational_score      8.145e+09   3.41e+09      2.388      0.017    1.45e+09    1.48e+10
Emoji_Count             -279.7602     83.353      -3.356      0.001    -443.249    -116.271
TPL_Index                401.6778     98.950       4.059      0.000     207.595     595.761
informational           -106.0161    472.048      -0.225      0.822   -1031.898     819.866
==============================================================================
Omnibus:                     3337.783   Durbin-Watson:                   2.009
Prob(Omnibus):                  0.000   Jarque-Bera (JB):          7277471.207
...
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.
[2] The smallest eigenvalue is 5.93e-13. This might indicate that there are
strong multicollinearity problems or that the design matrix is singular.
Mean Squared Error: 33490689.258674245
```

After Rectifications

- The model's fit has slightly improved, as indicated by the higher F-statistic.
- The model explains only 1.7% of the variation in 'likes'.
- 'Likes' increase with TPL_Index and decrease with more emojis.
- The 'informational' variable may have some influence on 'likes', but it's not statistically significant.
- The model's predictive accuracy has marginally improved, as indicated by a lower Mean Squared Error (MSE).

OLS Regression Results

Dep. Variable:	likes	R-squared:	0.033
Model:	OLS	Adj. R-squared:	0.031
Method:	Least Squares	F-statistic:	11.82
Date:	Wed, 10 Apr 2024	Prob (F-statistic):	4.56e-13
Time:	20:34:34	Log-Likelihood:	-20352.
No. Observations:	2058	AIC:	4.072e+04
Df Residuals:	2051	BIC:	4.076e+04
Df Model:	6		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
const	1599.2326	245.306	6.519	0.000	1118.159	2080.307
Emoji_Index	-1360.8991	193.570	-7.031	0.000	-1740.513	-981.286
Emoticon_Index	-3730.0668	2429.791	-1.535	0.125	-8495.183	1035.049
TPL_Index	1310.6998	178.773	7.332	0.000	960.104	1661.296
sentiment_subjectivity	-650.4060	394.822	-1.647	0.100	-1424.700	123.888
sentiment_polarity	-548.8200	445.084	-1.233	0.218	-1421.683	324.043
informational	-564.4787	235.044	-2.402	0.016	-1025.428	-103.530

Omnibus:	3798.566	Durbin-Watson:	1.728
Prob(Omnibus):	0.000	Jarque-Bera (JB):	4601792.232
Skew:	13.471	Prob(JB):	0.00
Kurtosis:	233.085	Cond. No.	62.1

Engagement: Replies matter more than likes on Twitter. Brands can boost engagement by asking questions or running promotions.

Content: The type of content significantly influences engagement. Informative posts generate more engagement than purely promotional ones.

Timing: Brands sharing more personalized content that resonates with the user group tend to have better reach. Key words such as “Thanksgiving” or “Vacation” “at the right place, at the right time” gain you more followers and reach.

TAKEAWAYS

Character Limit: In 2019, Twitter had a character limit, leading brands to use emojis and symbols. However, emojis don’t necessarily increase engagement or emotional connection.

Why not utilize brand-specific emojis in the content?