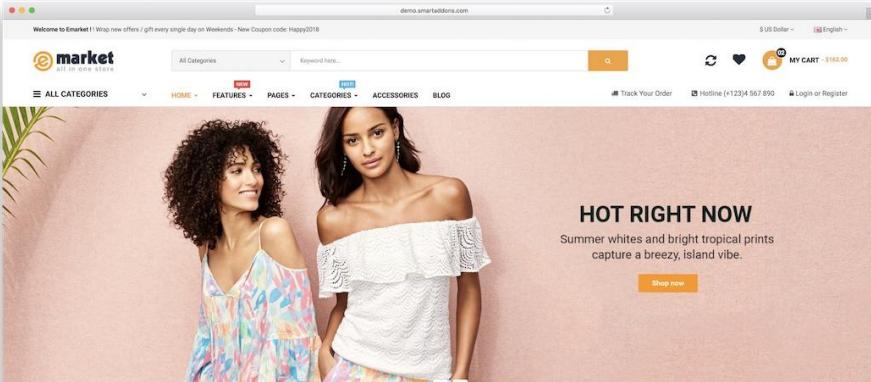


Analisis Sentimen Pada Review Pakaian Wanita Di E-commerce

Khalfia Helena

Customer Reviews



Welcome to Emarket ! Wrap new offers / gift every single day on Weekends - New Coupon code: Happy2018

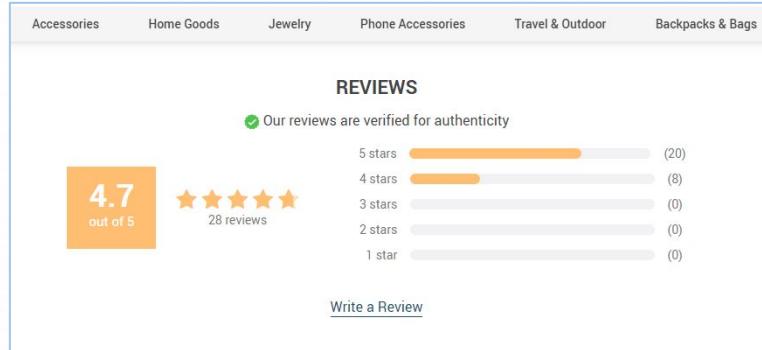
All Categories Keyword here... 3 US Dollar - English -
MY CART - \$162.00
Track Your Order Hotline (+123)4 567 890 Login or Register

HOT RIGHT NOW
Summer whites and bright tropical prints capture a breezy, island vibe.
[Shop now](#)

FREE DELIVERY From \$99.89 SUPPORT 24/7 FREE RETURN 365 A Day PAYMENT METHOD Secure Payment BIG SAVING Weekend Sales

SHOP BY CATEGORIES
TOWELS CLOUD SMARTPHONE WATCHES ELECTRONICS FURNITURES COLLECTIONS FASHION

Gift Special Wrap new offers / gift every single day on Weekends - New Coupon code: Happy2017 Get Coupon



Accessories Home Goods Jewelry Phone Accessories Travel & Outdoor Backpacks & Bags

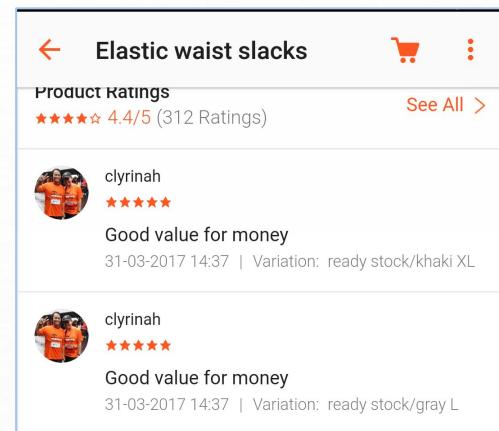
REVIEWS

Our reviews are verified for authenticity

4.7 out of 5 28 reviews

Rating	Count
5 stars	(20)
4 stars	(8)
3 stars	(0)
2 stars	(0)
1 star	(0)

[Write a Review](#)



← Elastic waist slacks See All >

Product Ratings ★★★★☆ 4.4/5 (312 Ratings)

clyrinah
★★★★★
Good value for money
31-03-2017 14:37 | Variation: ready stock/khaki XL

clyrinah
★★★★☆
Good value for money
31-03-2017 14:37 | Variation: ready stock/gray L

Background

SENTIMENT ANALYSIS



NEGATIVE
Totally dissatisfied with the service. Worst customer care ever.

NEUTRAL
Good Job but I will expect a lot more in future.

POSITIVE
Brilliant effort guys! Loved Your Work.

Sentimen Analisis dibutuhkan oleh perusahaan seperti e-commerce maupun perusahaan yang proses bisnisnya menggunakan bantuan teknologi di dalamnya.

Sentimen analisis digunakan untuk membantu perusahaan mengetahui seberapa baik dan berapa banyak peminat produk mereka. Kadangkala juga digunakan sebagai masukan untuk memperbaiki produk, bahkan banyak juga digunakan dalam penelitian sederhana, contohnya untuk mengetahui respon masyarakat.

Problem Statement

Percentase Customer Berdasarkan Nilai Rekomendasi



Sebanyak 18.2% pelanggan memilih tidak merekomendasikan produk pakaian wanita di e-commerce X. Jika pelanggan memberikan rating dan review buruk, maka dikhawatirkan akan mendorong calon pembeli lain untuk tidak membeli produk pakaian wanita di e-commerce X.

Project Overview



Goal

- Mengetahui kata apa yang paling sering ditulis oleh konsumen pada reviewnya
- Mengklasifikasikan review yang ditulis konsumen
- Memberikan rekomendasi kepada stakeholder hal apa yang perlu ditindaklanjuti dari review konsumen.



Dataset

Womens Clothing E-Commerce Reviews
<https://www.kaggle.com/datasets/nicapotato/womens-ecommerce-clothing-reviews>



Focus

- End to end project pada NLP
- Text processing dan visualisasi

Dataset

Data ini berisi tentang kumpulan **review** yang ditulis oleh pelanggan terkait dengan **E-Commerce Pakaian Wanita**. Dalam data ini terdapat sembilan fitur yang mencakup **23486** baris.

- **Age**
- **Title:** String variable for the title of the review.
- **Review Text:** String variable for the review body.
- **Rating:** Positive Ordinal Integer variable for the product score granted by the customer from 1 Worst, to 5 Best.
- **Recommended IND:** Binary variable stating where the customer recommends the product where 1 is recommended, 0 is not recommended.
- **Positive Feedback Count:** Positive Integer documenting the number of other customers who found this review positive.
- **Division Name:** Categorical name of the product high level division.
- **Department Name:** Categorical name of the product department name.
- **Class Name:** Categorical name of the product class name.

Age	Title	Review Text	Rating	Recommended IND	Positive Feedback Count	Division Name	Department Name	Class Name
33	NaN	Absolutely wonderful - silky and sexy and comf...	4	1	0	Intimates	Intimate	Intimates
34	NaN	Love this dress! it's sooo pretty. i happened...	5	1	4	General	Dresses	Dresses
60	Some major design flaws	I had such high hopes for this dress and reall...	3	0	0	General	Dresses	Dresses
50	My favorite buy!	I love, love, love this jumpsuit. it's fun, fl...	5	1	0	General Petite	Bottoms	Pants
47	Flattering shirt	This shirt is very flattering to all due to th...	5	1	6	General	Tops	Blouses

Data dapat diakses di
<https://www.kaggle.com/datasets/nicapotato/womens-ecommerce-clothing-reviews>

Data Preprocessing

01

Menghapus
angka

02

Menghapus
Tanda Baca

03

Menghapus
Repeating Characters

04

Menghapus URL 05

06

Case Folding

Merubah kalimat
pada review
menjadi huruf kecil

07

Tokenization

Kalimat dipotong
berdasarkan tiap kata
yang menyusunnya

08

Stemming

Merupakan tahap mencari root
(bentuk dasar) dari tiap kata

Remove Stopwords

Pembuangan kata-kata
yang dianggap tidak
penting

Before After Data Preprocessing

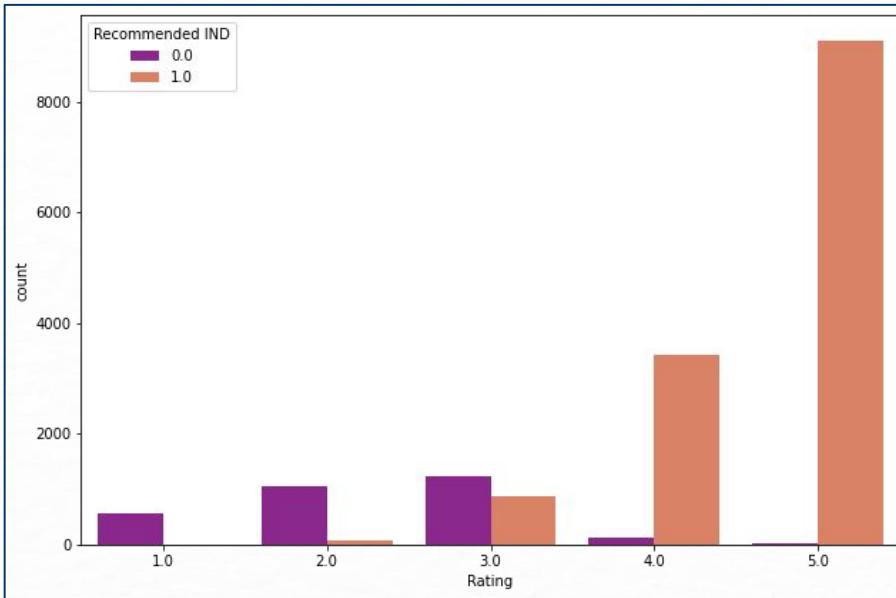
This shirt is **very flattering** to all due to the adjustable front tie. it is the perfect length to wear with leggings and it is sleeveless so it pairs well with any cardigan. love this shirt!!!

Before

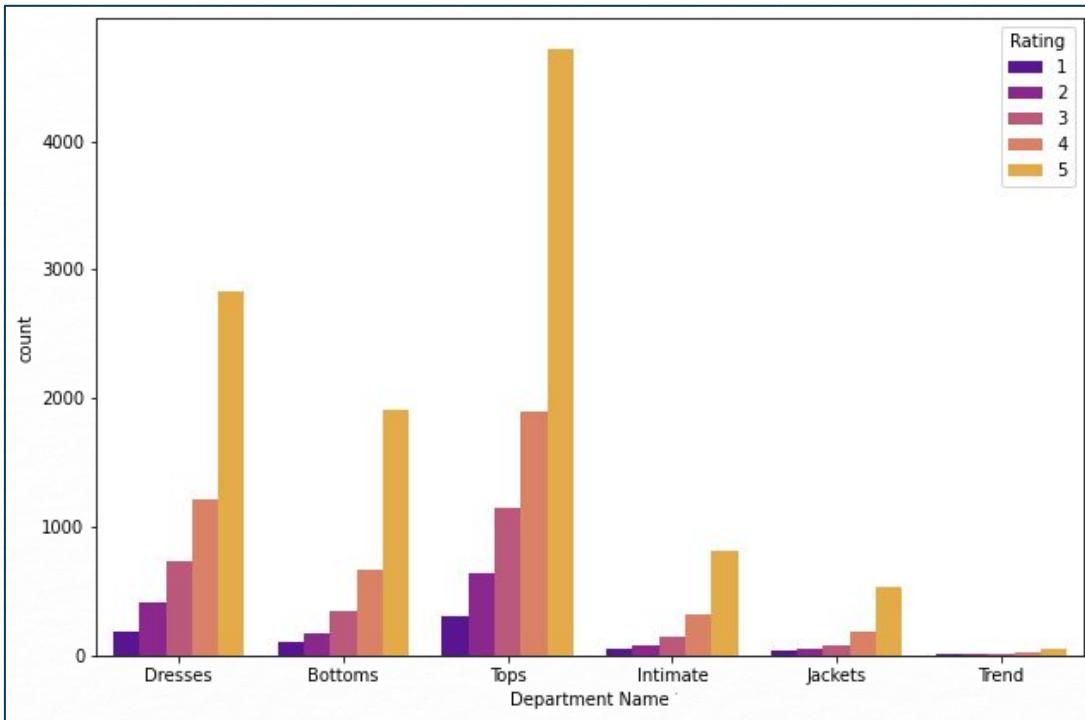
shirt flatter due adjust front tie perfect length wear leg sleeveless pair well cardigan love shirt

After

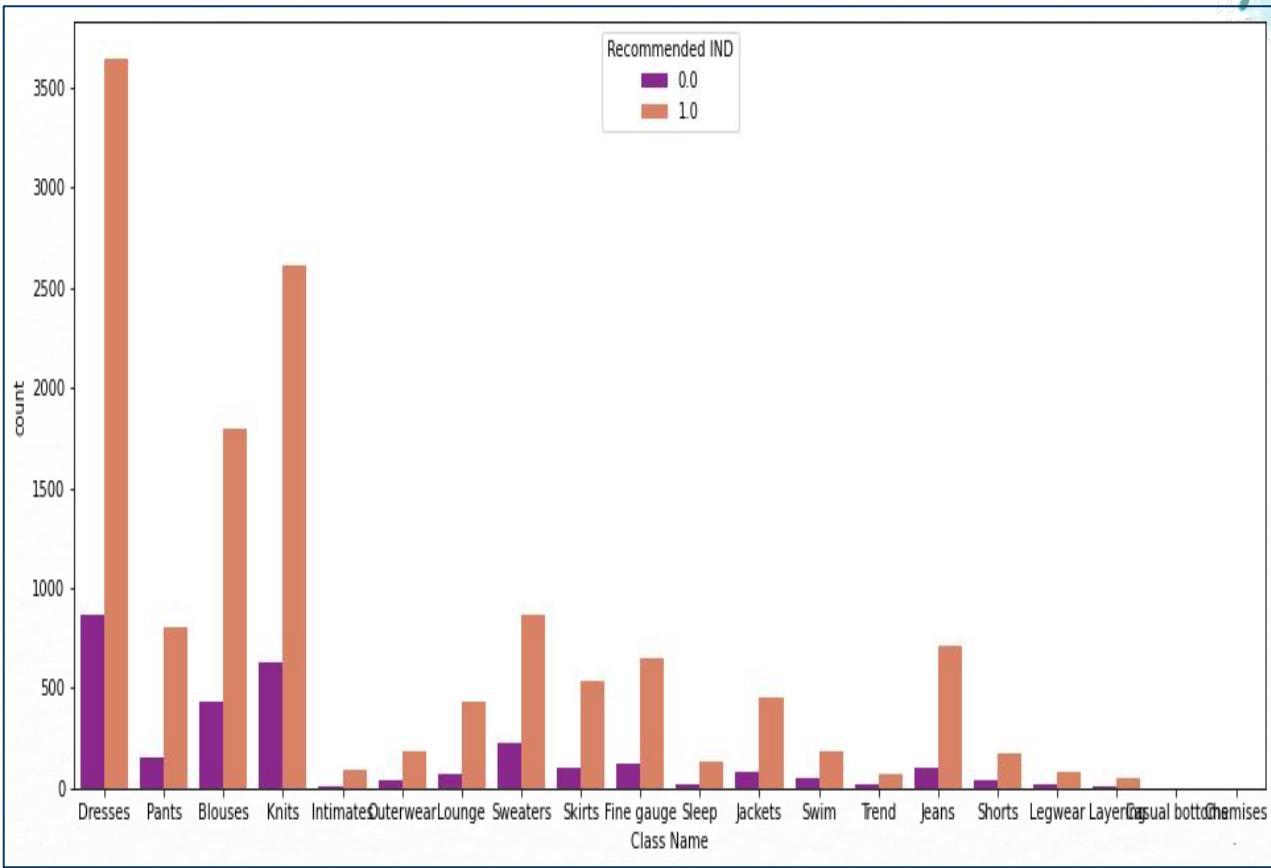
Exploratory Data Analysis



Kecenderungan Customer Memberikan Rekomendasi
Berdasarkan Rating

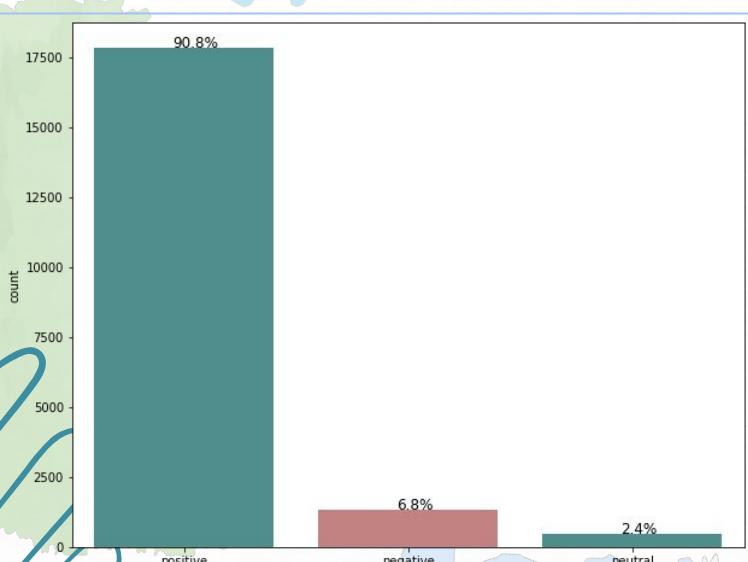


Kecenderungan Customer Memberikan Rating Berdasarkan Jenis Produk



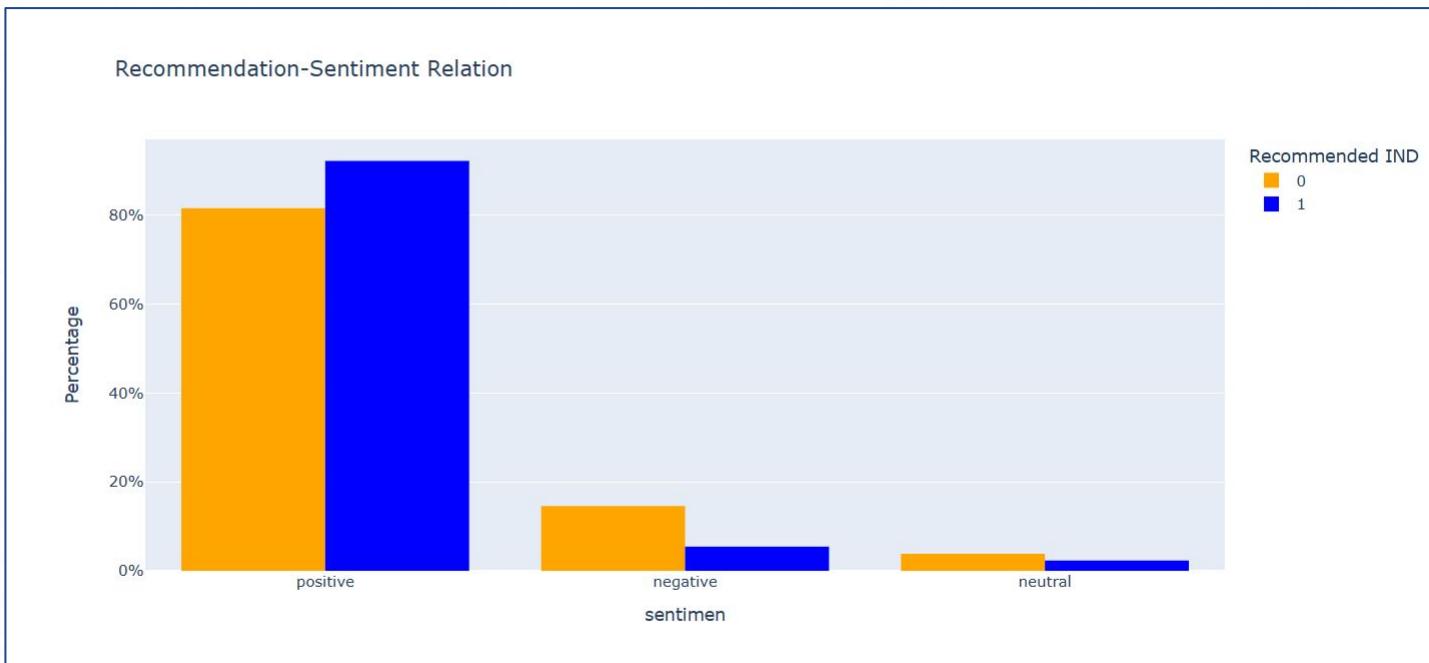
Kecenderungan Customer Memberikan Rekomendasi Berdasarkan Produk

Pelabelan



Review Text	Rating	Recommended IND	Positive Feedback Count	Division Name	Department Name	Class Name	Std_Age	subjectivity	polarity	sentimen
high hope dress reali want work initi order p...	3	0	0	General	Dresses	Dresses	1.365594	0.388065	0.069412	positive
love love love jumpsuit fun flirti fabul everi...	5	1	0	General Petite	Bottoms	Pants	0.549788	0.550000	0.520000	positive
shirt flatter due adjust front tie perfect len...	5	1	6	General	Tops	Blouses	0.305046	0.658333	0.458333	positive
love traci rees dress one petit feet tall usua...	2	0	4	General	Dresses	Dresses	0.468207	0.457143	0.085714	positive
ade basket hte last mintu see...	-	-	-	General	-	-	-	-	-	-

Presentase Sentimen Berdasarkan Kemauan Untuk Memberikan Rekomendasi



WORD CLOUD

Most Common words in Positive Sentiment



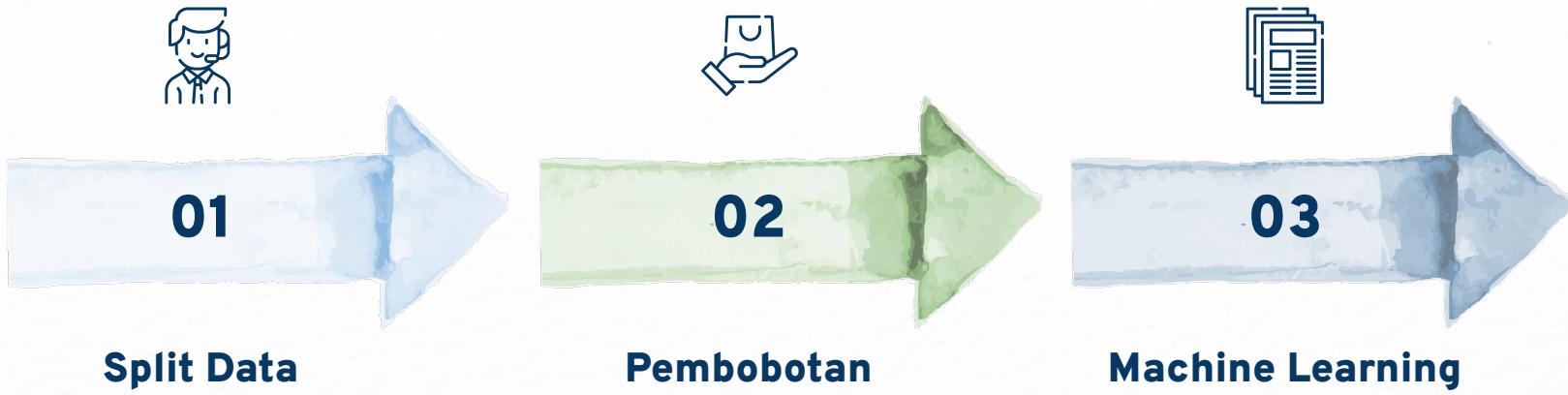
Positive review: love, perfect, fit, top, color

Most Common words in Negative Sentiment



Negative review: bad, disappoint, wrong, sad

Klasifikasi



Machine Learning
KNN, Decision Tree, SVM
(Linear Kernel), SVM (RBF
Kernel, Neural Network,
Random Forest)

Hasil Klasifikasi

Model	Accuracy	Recall	Precision	F1Score
Logistic Regression	0.88	0.97	0.89	0.93
KNN	0.84	0.95	0.86	0.90
Decision Tree	0.80	0.88	0.88	0.88
SVM (Linear Kernel)	0.89	0.96	0.91	0.93
SVM (RBF Kernel)	0.88	0.97	0.90	0.93
Neural Network	0.86	0.92	0.91	0.91
Random Forest	0.83	1.00	0.83	0.90

Support Vector Machine (Linear Kernel)



Recall Score = 96%

Model mampu menangkap 96% customer yang sebenarnya mereview positif diantara semua customer yang diprediksi tidak memberikan review positif terhadap produk yang mereka beli di e-commerce.

Kesimpulan

1. Kata yang sering ditulis customer pada review positif adalah love, perfect, fit, top, color
2. Kata yang sering ditulis customer pada review negatif adalah bad, disappoint, wrong, sad
3. SVM (Linear Kernel) menjadi metode yang paling akurat dalam mengklasifikasikan review customer dengan recall score 96% dan akurasi 89%.



Rekomendasi

1. Untuk perusahaan diharapkan bisa memperbaiki kualitas produk mereka mengingat banyak customer yang memberikan review negatif yang berdampak pada ketidakmauan customer memberikan rekomendasi.
2. Perusahaan bisa menggunakan SVM linear kernel untuk mengklasifikasikan review customer
3. Analisis sentimen ini berguna untuk diterapkan pada Brand/Product Reputation Analysis, Competitor Analysis, Customer Service Analysis, dan Trend/Event Analysis