

Eco-Stride



“Step into a Sustainable Future”



SIMON
BUSINESS
SCHOOL

Agenda

1. Business Problem



2. Dataset Overview



3. Analytics Methodology



4. Business Insights



5. Product Overview



6. Social Media Campaign



7. Appendix Summary



Business Problem

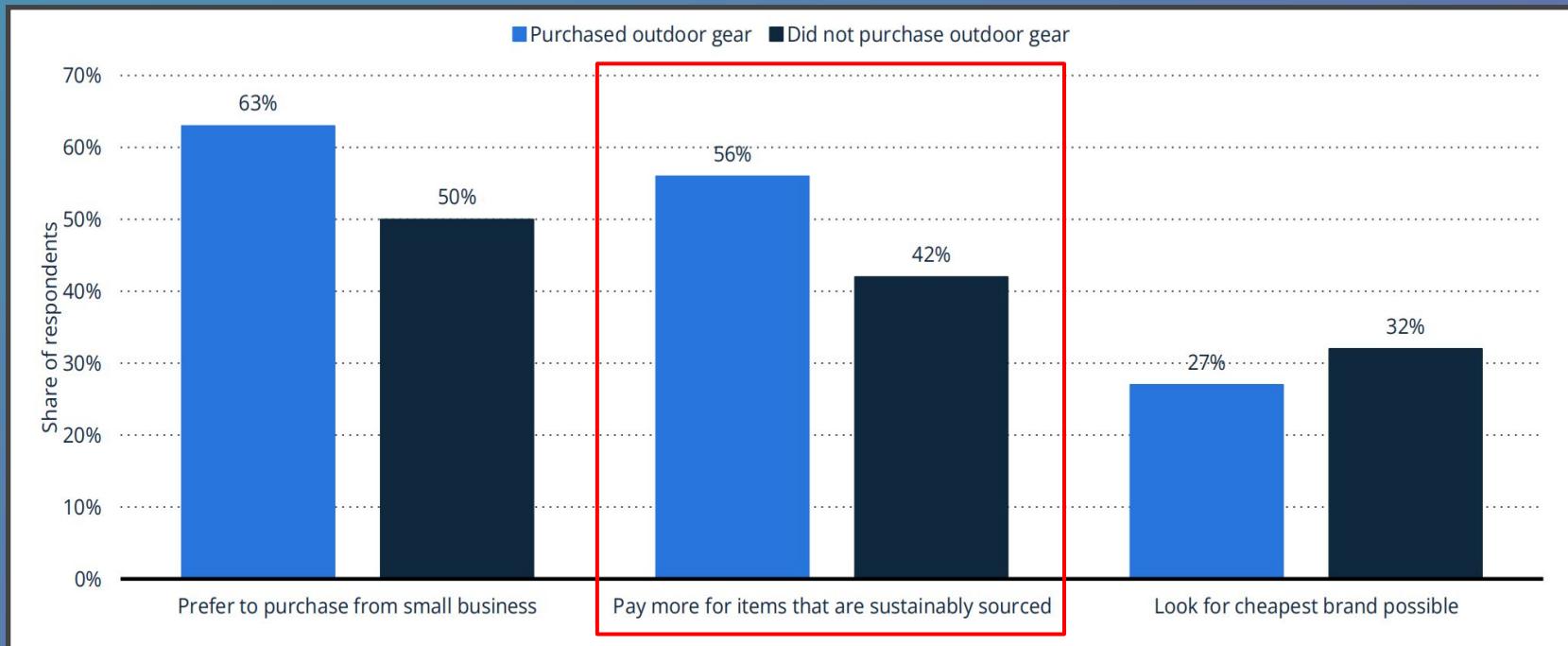
- Global emissions are the biggest contributing factor of global warming
- Manufacturing accounts for 23% of direct carbon emissions
- More than half of the global consumers are leaning toward more eco friendly products



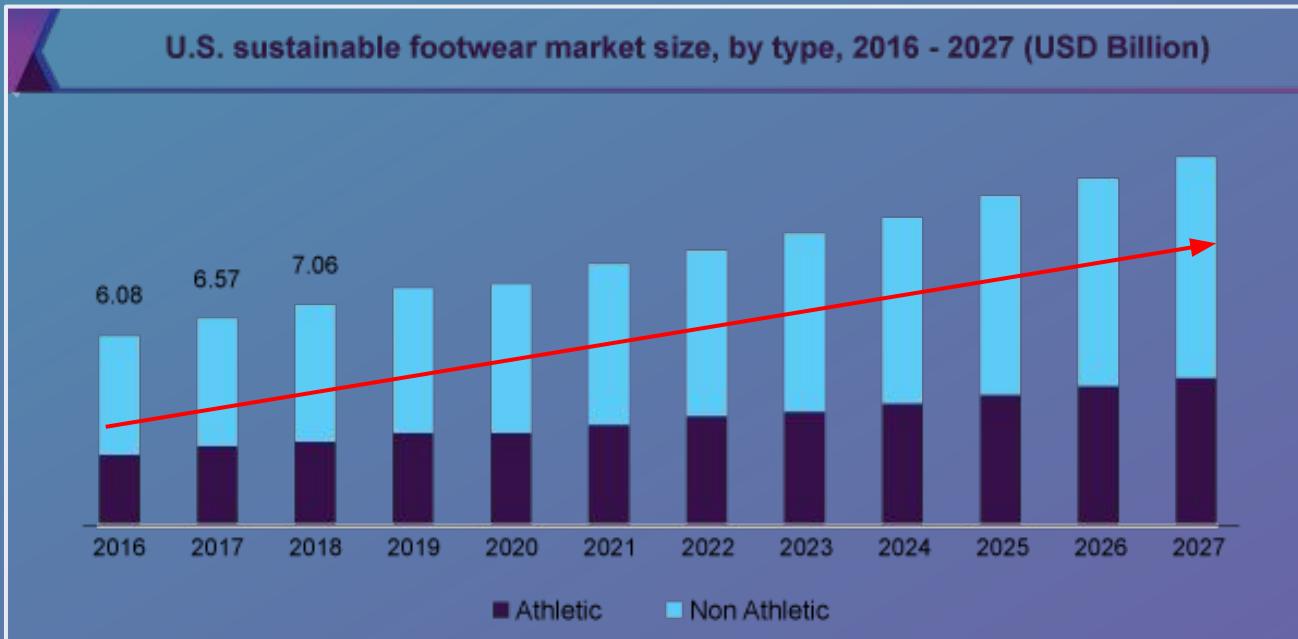
Global warming. (n.d.). Retrieved from <https://education.nationalgeographic.org/resource/global-warming/>

How manufacturing can raise the bar on global climate goals. (n.d.). Retrieved from <https://www.weforum.org/agenda/2021/06/manufacturing-industry-climate-change-goals/>

Customers are willing to Pay more for Sustainably Sourced Products



The Growth of US Sustainable Footwear Market Size

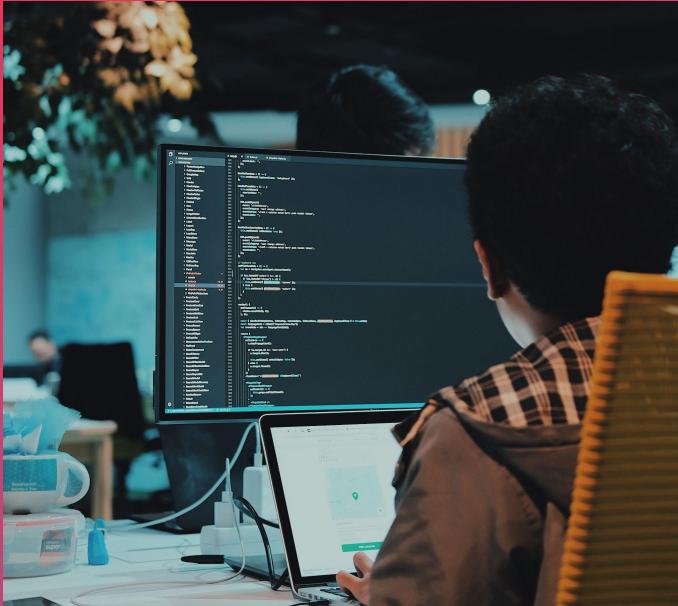


Dataset Overview



- 2,839,940 observations
- 12 features
- Year 2000 - 2018

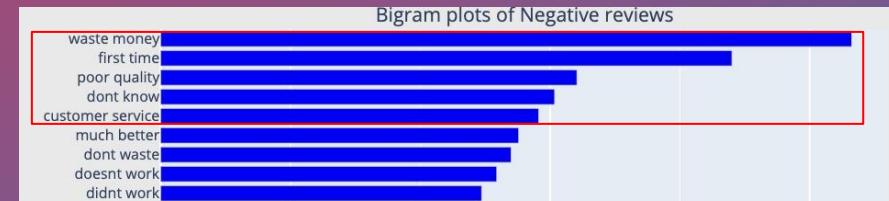
Text Analysis Methodology



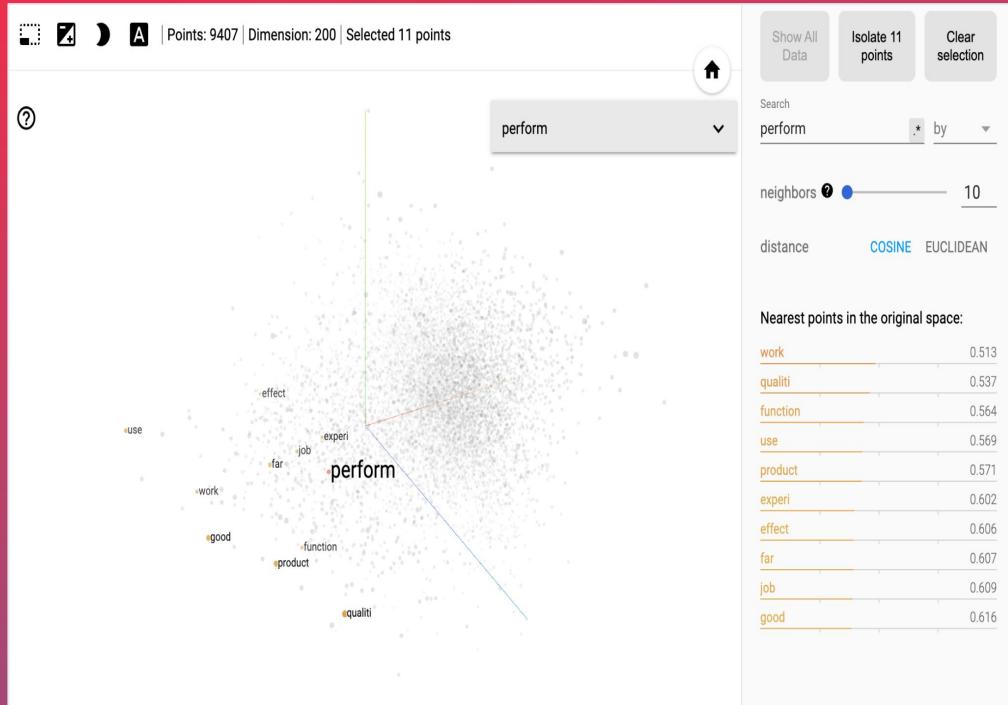
- Removal of the punctuations
- Removal of links
- Removal of numbers
- Removal of stop words
- Change all texts to lowercase
- Iterate through the rows to generate sentiment ratings
- Implement topic modeling to extract common words and topics among user reviews

Customers Prefer a Product that is Reasonably Priced, with Good Quality, and Easy to Use

- **Quality**
- **Price**
- **Functionality**
- **Customer service**



Word2Vec Visualization



GUEF Function

Good quality
+
User experience
+
Ease of use
+
Functionality
=

High-Performance

Business Insights

-  **Maintain high quality**
-  **Innovative design**
-  **Good customer service**
-  **Healthy product lifecycle**

Why Athletic Footwear?



Product Introduction



Why Eco-Stride?



Eco-Conscious
Manufacturing

Sustainable Materials

Recycling Program

Marketing Objectives



- Increase **brand awareness** and recognition among target consumers through digital channels
- Foster a **solid online presence** to drive sales and customer engagement
- Build **strategic partnerships** with eco-conscious influencers, athletes, and organizations

Target Segment

Geographic



Urban and suburban areas in developed countries

Population



Environmentally conscious population like millennials and Gen Z

Target Audience



Active individuals who participate in various sports and outdoor activities, such as running, cycling, hiking, and team sports

Psychographic



Environmentally responsible consumers who prioritize reducing their carbon footprint and supporting sustainable practices

Behavioral



Consumers who actively seek out and research eco-friendly products before making a purchase

Competitive Pricing

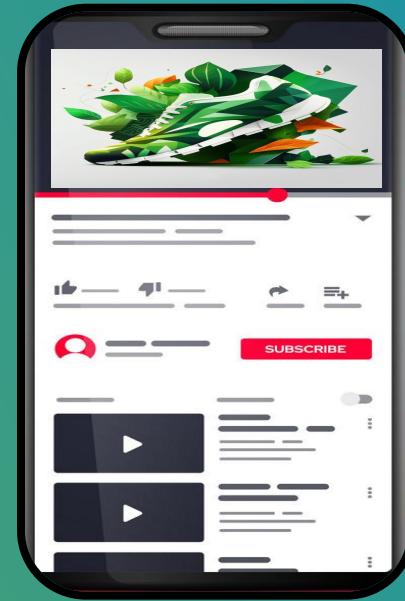
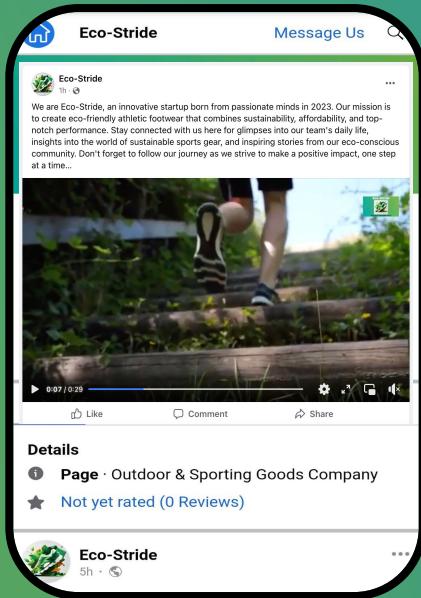


Implementing **cost-saving measures** throughout the production process without compromising on sustainability



Partnering with **cost-effective distribution channels**, such as e-commerce platforms, to minimize overhead costs

Social Media Campaign





THANKS

FEEL FREE TO CONTACT US IF
YOU HAVE ANY QUESTIONS

Appendix



1

Jocelyn, V., & Biagi, L. (n.d.). Outdoor Recreation and Sporting Goods in the United States. Retrieved from:
<https://www.statista.com/study/123579/outdoor-sporting-and-recreation-goods-in-the-united-states/>

Summary

Presents a range of statistics and facts on the U.S. outdoor sporting and recreation goods market.

2

Clements, M. (2023, April 18). Customer segmentation examples for outdoor and active brands. Insight To Action. Retrieved from:
<https://itoaction.com/customer-segmentation-examples-for-outdoor-and-active-brands/>

Customer segmentation for different popular outdoor activities.

3

Bethune, A. (2017, September). 5 consumer trends impacting outdoor marketing. Origin. Retrieved from:
<https://www.originoutside.com/insights/5-consumer-trends-impacting-outdoor-marketing>

Consumer trends impacting outdoor sports marketing, including the change in customer base, new idea about outdoor sports, technology, etc.

4

Ebin, A. Sporting Goods Brands Target Woman. Retrieved from:
<https://capitalmind.com/sporting-goods-brands-target-women/>

How outdoor sporting goods target female customers.

5

Markets, R.(2022) Global Outdoor Sports Apparel Market Report (2022 to 2027) - industry trends, share, size, growth, opportunity and forecasts, PR Newswire: press release distribution, monitoring and marketing. Retrieved from:
<https://www.prnewswire.com/news-releases/global-outdoor-sports-apparel-market-report-2022-to-2027--industry-trends-share-size-growth-opportunity-and-forecasts-301651871.html>

Provides outlines of what we can cover in terms of outdoor sports marketing.

6

Blondel, J.-P. (2020) What brands should know about shopping trends in outdoor activities and sports for 2022, Amazon. Retrieved from:
<https://advertising.amazon.com/blog/outdoor-marketing-trends>

Summary

This article is from Amazon's content marketing manager, it introduces a survey about how consumers purchase their outdoor sports equipment, and what's the trend.

7

Buhay, C. (2022) Outdoor industry marketing trends of the future - outside online. Retrieved from:
<https://www.outsideonline.com/business-journal/brands/outdoor-industry-marketing-trends-of-the-future/>

Introduces the future trend of outdoor industry, including new technology, more customized products, how to use the data collected to offer better service, what's the potential to explore new market, etc.

8

Subic, A., Mouritz, A. and Troynikov, O. (2010) Sustainable design and environmental impact of materials in sports products, Wiley Online Library. Retrieved from:
<https://onlinelibrary.wiley.com/doi/full/10.1002/jst.117>

This academic article talks about how the material influences the outdoor sports industry and societies, besides of that, it also mentions the new technology and influence, like environmental protection material which prevalent recent years.

9

Heder, A. (2023, Jan 12) 5 Sustainability trends that will keep the sports industry busy, ISPO. Retrieved from:
<https://www.ispo.com/en/sustainability/5-sustainability-trends-will-keep-sports-industry-busy>

Introduces 5 sustainability trends in the future, including greenwashing, repairable clothing, live circular economy, live sport sustainably and the discussion between recycling and monomaterial.

10

Badloe, N. (2019, Sep 24) Protecting our planet: Sports brands, sportanddev.org. Retrieved from:
<https://www.sportanddev.org/latest/news/protecting-our-planet-sports-brands>

Talks about how different famous sports brands attend environmental protection programs. In other words, it implies that environmental protection is a new trend in sports industry.

11

HIRSH, S. (2022, Apr 6) There are a number of brands making eco-friendly and vegan sports equipment, from balls to boxing gloves., Green Matters. Retrieved from: <https://www.greenmatters.com/p/eco-friendly-sports-equipment>

Instead of eco-friendly and sustainable sports products, this article also introduces a concept called vegan sports equipment. From this, we could have a glimpse on the future trend.

12

Shoe Sustainability. (n.d.). Retrieved from: <https://www.shoesustainability.com/>

"shoe design, development, manufacturing, distribution, and selling processes that minimize negative environmental impacts, conserve energy and natural resources, are safe for employees, communities, and consumers, and are economically sound".

13

Sustainable Footwear Market Size: Industry Report, 2020-2027. Sustainable Footwear Market Size | Industry Report, 2020-2027. (n.d.). Retrieved from: <https://www.grandviewresearch.com/industry-analysis/sustainable-footwear-market>

Sustainable Footwear Market Size is growing yearly.

14

Responsible sourcing. Shoe Sustainability. (n.d.). Retrieved from: <https://www.shoesustainability.com/certification>

Sustainable Sourcing Certification, using EPMs to know the percent of recycled or bio-based materials.

15

Sustainable footwear tips and information. Zero Waste Sonoma. (n.d.). Retrieved from: <https://zerowastesonoma.gov/news/sustainable-footwear-tips-and-information>

Sustainable footwear tends to be more expensive due to the undeveloped manufacturing technology. Ethical manufacturing processes tend to require higher or more comprehensive employee benefits.

16

Trivedi, N. (2019, June 13) Achieving competitive advantage in the sports industry, THINK Blog. Retrieved from:
<https://www.ibm.com/blogs/think/2019/06/the-next-competitive-edge-in-sport/>

Summary

This article analyzes the competition in sports industry, and it provides insights on how to improve competitiveness.

17

Mordor Intelligence (2023) Sports & leisure equipment market size & share analysis - industry research report - growth trends, Sports & Leisure Equipment Market Size & Share Analysis - Industry Research Report - Growth Trends. Retrieved from:
<https://www.mordorintelligence.com/industry-reports/sports-and-leisure-equipment-market>

This report focuses on the market globally, analyzing the specific market share, STP trends, and it also provides useful statistical result.

18

Selazar. (2023) Sporting goods: Sporting equipment & accessories market 2022. Retrieved from:
<https://selazar.com/ecommerce-fulfilment/sporting-goods-market-2022/>

The useful information from this article is talking about the trends in online sporting goods shopping.

19

Becker, S. et al. (2021, Jan 25) Sporting goods 2021: The next normal for an industry in Flux, McKinsey & Company. McKinsey & Company. Retrieved from:
<https://www.mckinsey.com/industries/retail/our-insights/sporting-goods-2021-the-next-normal-for-an-industry-in-flux>

This McKinsey reports gives an insight view on sporting goods industry, including sustainable materials, customers behavior, big social, technological change, famous brands' insight, industry's shift, and how to gain profits under the shift, etc.

20

Wiśniewski, K. (2020, June) Competitiveness of sports market enterprises: determinants, classification, challenges, ResearchGate. Retrieved from:
https://www.researchgate.net/publication/342551882_Competitiveness_of_sports_market_enterprises_determinants_classification_challenges

This academic research introduces the sports industry in a general perspective, it talks about the industry instead of just sporting goods. From this article, we could have a better view of the industry itself, like its current situation, competition, future trend, etc.

Preprocessing & Cleaning

```
import re
import string

def review_cleaning(text):

    text = str(text).lower() # lowercase text
    text = re.sub('\[.*?\]', '', text) # remove text in square brackets
    text = re.sub('https?://\S+|www\.\S+', '', text) # remove links
    text = re.sub('<.*?>+', '', text)
    text = re.sub('[%s]' % re.escape(string.punctuation), '', text) # remove punctuation
    text = re.sub('\n', '', text) # remove words containing numbers
    text = re.sub('\w*\d\w*', '', text)
    return text

process_reviews['reviews']=process_reviews['reviews'].apply(lambda x:review_cleaning(x))
process_reviews.head()
```

```
## Remove all the stop words in the review column
stop_words= ['yourself', 'between', 'whom', 'itself', 'is', "she's", 'up', 'herself', 'here', 'your', 'each',
'we', 'he', 'my', "you've", 'having', 'in', 'both', 'for', 'themselves', 'are', 'them', 'other',
'and', 'an', 'during', 'their', 'can', 'yourself', 'she', 'until', 'so', 'these', 'ours', 'above',
'what', 'while', 'have', 're', 'more', 'only', "needn't", 'when', 'just', 'that', 'were', "don't",
'very', 'should', 'any', 'y', 'isn', 'who', 'a', 'they', 'to', 'too', "should've", 'has', 'before',
'into', 'yours', "it's", 'do', 'against', 'on', 'now', 'her', 've', 'd', 'by', 'am', 'from',
'about', 'further', "that'll", "you'd", 'you', 'as', 'how', 'been', 'the', 'or', 'doing', 'such',
'his', 'himself', 'ourselves', 'was', 'through', 'out', 'below', 'own', 'myself', 'theirs',
'me', 'why', 'once', 'him', 'than', 'be', 'most', "you'll", 'same', 'some', 'with', 'few', 'it',
'at', 'after', 'its', 'which', 'there', 'our', 'this', 'hers', 'being', 'did', 'of', 'had', 'under',
'over', 'again', 'where', 'those', 'then', 'you're', 'i', 'because', 'does', 'all']
```

```
process_reviews['reviews'] = process_reviews['reviews'].apply(lambda x: ' '.join([word for word in x.split() if word not in (stop_words)]))
```

Sentiment Analysis

```
## Clear NAs in reviewText
process_reviews['reviewText']=process_reviews['reviewText'].fillna('Missing')

## Combine review text and summary column
process_reviews['reviews']=process_reviews['reviewText']+process_reviews['summary']
process_reviews=process_reviews.drop(['reviewText', 'summary'], axis=1)
process_reviews = process_reviews.drop(columns=['style', 'vote', 'image'])

## Figuring out the distribution of categories
process_reviews['overall'].value_counts()

5.0    1921398
4.0     495533
3.0     210215
1.0     111157
2.0     101637
Name: overall, dtype: int64
```

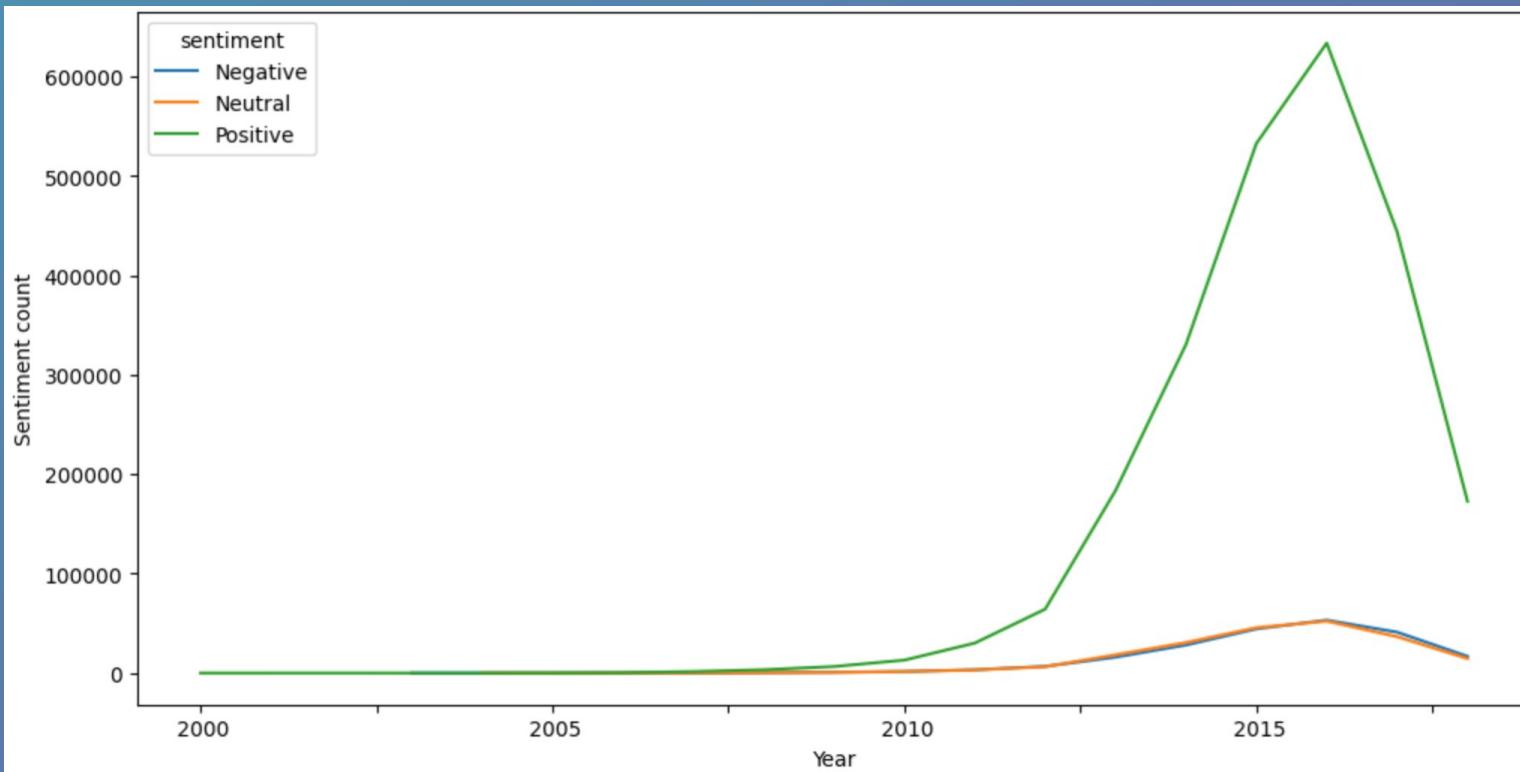
```
def f(row):

    if row['overall'] == 3.0:
        val = 'Neutral'
    elif row['overall'] == 1.0 or row['overall'] == 2.0:
        val = 'Negative'
    elif row['overall'] == 4.0 or row['overall'] == 5.0:
        val = 'Positive'
    else:
        val = -1
    return val

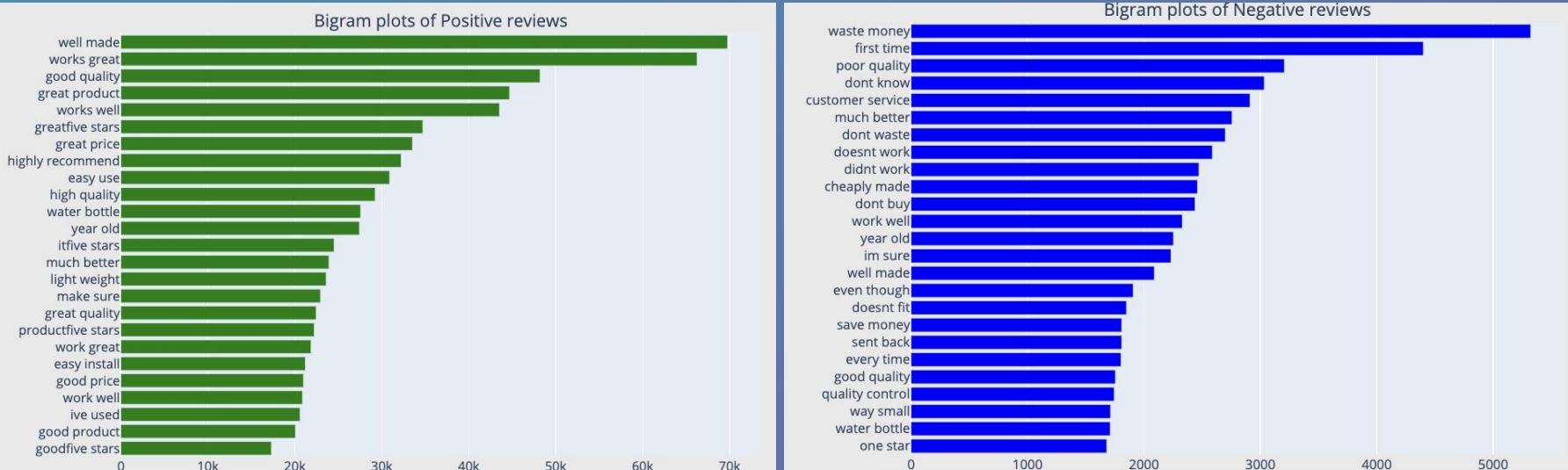
## Applying the function in our new column
process_reviews['sentiment'] = process_reviews.apply(f, axis=1)
process_reviews.head()
```

	overall	verified	reviewTime	reviewerID	asin	reviewerName	unixReviewTime	reviews	sentiment
0	5.0	True	06 3, 2015	A180LQZBUWVOLF	0000032034	Michelle A	1433289600	What a spectacular tutu! Very slimming.Five Stars	Positive
1	1.0	True	04 1, 2015	ATMFGKU5SVEYY	0000032034	Crystal R	1427846400	What the heck? Is this a tutu for nuns? I know...	Negative
2	5.0	True	01 13, 2015	A1QE70QBJ8U6ZG	0000032034	darla Landreth	1421107200	Exactly what we were looking for!Five Stars	Positive
3	5.0	True	12 23, 2014	A22CP6Z73MZTYU	0000032034	L. Huynh	1419292800	I used this skirt for a Halloween costume and ...	Positive
4	4.0	True	12 15, 2014	A22L28G8NRNLLN	0000032034	McKenna	1418601600	This is thick enough that you can't see through...	Positive

Year vs Sentiment Count



Bigram Analysis



Topic Modeling

```
nlp = spacy.load('en_core_web_sm', disable=['parser', 'ner'])

def lemmatization(texts, allowed_postags=['NOUN', 'ADJ']):
    output = []
    for sent in texts:
        doc = nlp(sent)
        output.append([token.lemma_ for token in doc if token.pos_ in allowed_postags])
    return output

text_list=after['reviews'].tolist()
print(text_list[1])
tokenized_reviews = lemmatization(text_list)
print(tokenized_reviews[1])
```

```
[(),  
 ('0.071*"knife" + 0.038*"glove" + 0.038*"gun" + 0.034*"ball" + 0.028*"hand" + 0.024*"sharp" + 0.023*"blade" + 0.022*"good" + 0.019*"belt" +  
 0.018*"great"),  
 (1,  
  '0.066*"size" + 0.064*"fit" + 0.043*"small" + 0.033*"large" + 0.027*"short" + 0.026*"comfortable" + 0.024*"nice" + 0.022*"big" + 0.021*"perfect" +  
 0.020*"tight"),  
 (2,  
  '0.047*"bright" + 0.035*"sight" + 0.032*"shirt" + 0.025*"shoe" + 0.022*"kid" + 0.019*"cover" + 0.017*"replacement" + 0.017*"rifle" + 0.017*"front" +  
 0.015*"arrow"),  
 (3,  
  '0.030*"warm" + 0.028*"time" + 0.019*"band" + 0.019*"battery" + 0.015*"cap" + 0.013*"first" + 0.013*"tube" + 0.012*"week" + 0.012*"lightweight" +  
 0.012*"towel"),  
 (4,  
  '0.031*"water" + 0.029*"year" + 0.026*"great" + 0.026*"bottle" + 0.024*"old" + 0.014*"good" + 0.013*"time" + 0.012*"target" + 0.011*"use" + 0.011*"son"),  
 (5,  
  '0.086*"good" + 0.064*"price" + 0.064*"quality" + 0.048*"great" + 0.041*"star" + 0.026*"money" + 0.022*"grip" + 0.018*"high" + 0.017*"nice" +  
 0.015*"cheap"),  
 (6,  
  '0.080*"bag" + 0.037*"case" + 0.029*"tool" + 0.021*"stuff" + 0.020*"great" + 0.018*"kit" + 0.017*"heavy" + 0.014*"pad" + 0.012*"handy" + 0.012*"room"),  
 (7,  
  '0.119*"product" + 0.067*"great" + 0.041*"good" + 0.031*"quality" + 0.024*"sock" + 0.020*"value" + 0.018*"gift" + 0.017*"price" + 0.016*"slipper" +  
 0.015*"husband"),  
 (8,  
  '0.062*"bike" + 0.040*"light" + 0.024*"great" + 0.022*"cool" + 0.017*"ride" + 0.016*"day" + 0.016*"cold" + 0.014*"night" + 0.013*"tire" + 0.013*"hot"),  
 (9,  
  '0.028*"light" + 0.027*"great" + 0.024*"easy" + 0.020*"use" + 0.019*"good" + 0.016*"weight" + 0.015*"little" + 0.014*"strap" + 0.014*"nice" +  
 0.012*"pack"))]
```

```
# Creating the object for LDA model using gensim library
LDA = gensim.models.ldamodel.LdaModel

# Build LDA model
lda_model = LDA(corpus=doc_term_matrix,
                  id2word=dictionary,
                  num_topics=10,
                  random_state=100,
                  chunksize=1000,
                  passes=50,
                  iterations=100)

lda_model.print_topics(10)
```