

# ISOM5160 Group Report

Dataset: amazon\_food\_reviews.csv

## Group7

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- ① Introduction
- ② Literature Review
- ③ Correlation Between Ratings and Product Descriptions
- ④ Results

## 1 Introduction

## 2 Literature Review

## 3 Correlation Between Ratings and Product Descriptions

## 4 Results

# Background and Motivation

## Why to give a presentation:

- show the main arguments and results of your work
- produce interest to read the full paper/report
- goal: be educational and also entertaining

## Advantages of using $\text{\LaTeX}$ with the beamer package:

- very easy if the report is already written in  $\text{\LaTeX}$
- different themes which are usable in practice
- possibility to create handouts using *beamerarticle*

# Research question

this is a Research question.



# Research gap

this is a Literature gap.

# Research question

this is a Literature Review.



1 Introduction

2 Literature Review

3 Correlation Between Ratings and Product Descriptions

4 Results

# Overview

## 1. Visual Information Correlation

- Correlation with the number of sample images

## 2. Text Information Correlation

- Correlation with description length
- Correlation with reading ease
- Correlation with the marketing tone of the description
- Correlation with product description items *beamerarticle*

**Correlation computation:** We use spearmanr to compute Correlation

# Supplementary data (Scraped from Amazon's website)

amazon **Deliver to Hong Kong** All • BOOOGARYNE

EN Hello, sign in Account & Lists Returns & Orders Cart

Today's Deals Prime Video Registry Gift Cards Customer Service Sell

Grocery Deals Snacks Breakfast Warm Beverages Cold Beverages Cooking Staples Baby Food Candy & Chocolate Subscribe & Save International Foods

Grocery & Gourmet Food Snacks & Sweets Snack Foods Chips & Crisps Potatoes

**Kettle Brand Potato Chips, Unsalted Kettle Chips, 5 Oz (Pack of 15)**  
Visit the Kettle Brand Store  
4.5 ★★★★★ 22,403 ratings

This item cannot be shipped to your selected delivery location. Please choose a different delivery location.

Flavor Name: **Unsalted**

Size: **5 Ounce (Pack of 15)**

Diet type  
✓ Gluten Free ✓ Kosher ✓ Vegetarian

Ingredients

About this item  
Report an issue with this product or seller

No featured offers available  
Learn more

This item cannot be shipped to your selected delivery location. Please choose a different delivery location.  
See Similar Items  
Deliver to Hong Kong  
Add to List

Click to see full view

**Product Description**

Kettle Brand Unsalted kettle chips start with a search for undisputed potato excellence. Determined not to disrupt the flawless, spudgy goodness, these beauties are kettle cooked, skins on, one batch at a time. Made with two ingredients: potatoes and oil, we skipped the salt but never skimp on flavor or that satisfying crunch. Just whole potatoes, perfectly sliced, cooked to perfection. Why mess with perfection? When you open a bag of our Kettle Brand potato chips, you know you're getting incredible kettle chips made with authentic recipes by real people. All that, plus Kettle Brand chips deliver a delicious snack that's non-GMO and Gluten-Free. You can share this 5-ounce bag of chips with a friend, but we won't blame you if you keep them all for yourself. Kettle Brand potato chips. Extra in a good way.

**Product details**

**Is Discontinued By Manufacturer:** No  
**Product Dimensions:** 19.5 x 15.56 x 10.88 inches; 8.5 ounces  
**Item model number:** 424671  
**Manufacturer:** Kettle  
**ASIN:** B000GARYNE  
**Units:** 75.0 Ounce  
**Best Sellers Rank:** #12,581 in Grocery & Gourmet Food (See Top 100 in Grocery & Gourmet Food)  
**178 in Potato Chips & Crisps**  
**Customer Reviews:** 4.5 ★★★★★ 22,403 ratings

**Important Information**

**Safety Information**  
This product is labelled to United States standards and may differ from similar products sold elsewhere in its ingredients, labeling and allergen warnings

**Indications**  
Non-GMO Project Verified, Kosher Parve

**Ingredients**  
Potatoes, Safflower and/or Sunflower and/or Canola Oil.

**Directions**

amazon **Deliver to Hong Kong** All • BOOOGARYNE

EN Hello, sign in Account & Lists Returns & Orders Cart

**Ingredients**  
Potatoes, Safflower and/or Sunflower and/or Canola Oil.

**Directions**  
Open at tear notch and enjoy!

**Legal Disclaimer**  
Statements regarding dietary supplements have not been evaluated by the FDA and are not intended to diagnose, treat, cure, or prevent any disease or health condition.

**Brands in this category on Amazon**

Sponsored

**Customer reviews**  
★★★★★ 4.5 out of 5  
22,403 global ratings

5 star 75%  
4 star 13%  
3 star 6%  
2 star 2%  
1 star 4%

How customer reviews and ratings work

**Customers say**  
Customers find these potato chips very flavorful, not too salty, and appreciate their excellent quality and typical kettle chip crunch. They are particularly good for those on a low or no-salt diet, and customers like their convenient single-serving size to avoid overeating. While some customers find them fresh and great for the price, others report receiving stale chips and consider them overpriced. The chips receive mixed feedback about their greasiness, with several customers finding them too oily.

**Select to learn more**  
✓ Taste | ✓ Chips quality | ✓ Crunchiness | ✓ Salt content | Value for money | Shelf life | Size | Greasiness

**Reviews with images**

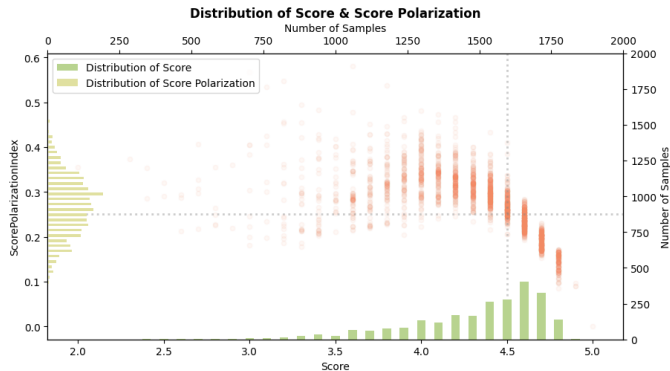
**Review this product**  
Share your thoughts with other customers  
Write a customer review

**Top reviews from the United States**

**Kathy**  
★★★★★ **Worth a try**  
Reviewed in the United States on September 28, 2025  
Flavor Name: Unsalted | Size: 8.5 Ounce (Pack of 3) **Verified Purchase**  
Tastes great. I didn't even miss the salt.  
Helpful Report

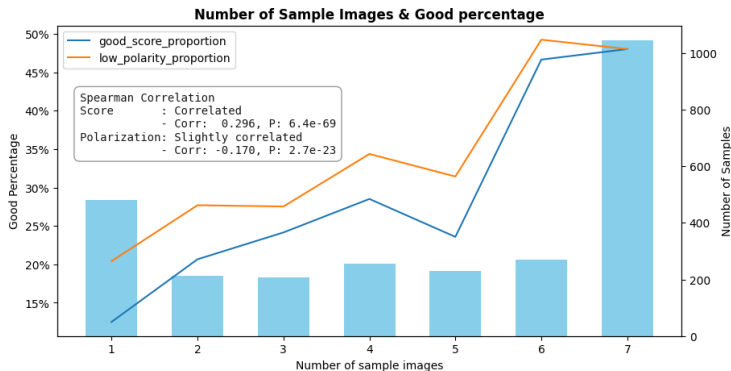
**Terryfred**  
★★★★★ **Very Delicious Potato**  
Reviewed in the United States on June 19, 2025  
Flavor Name: Unsalted | Size: 8.5 Ounce (Pack of 3) **Verified Purchase**  
I never thought salt free potato chips would taste very good but these are so delicious! I had a low-salt episode and found these to be perfect. Who knew!

# Rating features



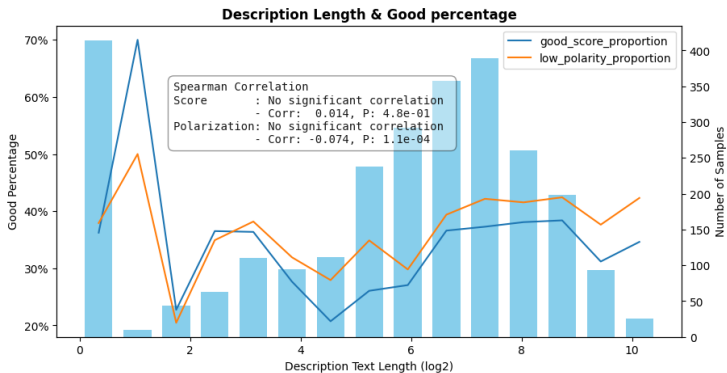
- ① **Mean Score:** The score displayed on the product detail page.
- ② **Score Polarization:** Indicates whether the ratings for this product are polarized.
- ③ **Standards of Good Score:** Score  $\geq 4.5$ ; Polarization  $\leq 0.25$

# Correlation with the number of sample images



**Conclusion:** There is a positive correlation in product ratings and descriptions. The more images included in the description, the greater the likelihood of the product receiving positive reviews.

# Correlation with description length



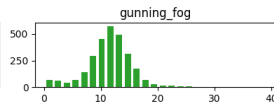
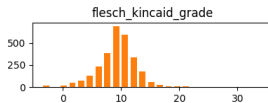
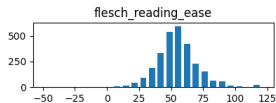
**Conclusion:** There is no significant correlation between product ratings and the length of product descriptions.

# Correlation with reading ease

ease_index	compare_with	corr	p_value	conclusion
flesch_reading_ease	Score	0.0163	0.3863	No significant correlation
flesch_reading_ease	Polarization	-0.0187	0.3214	No significant correlation
flesch_kincaid_grade	Score	0.0123	0.5135	No significant correlation
flesch_kincaid_grade	Polarization	-0.0130	0.4900	No significant correlation
gunning_fog	Score	0.0066	0.7270	No significant correlation
gunning_fog	Polarization	-0.0076	0.6870	No significant correlation

- **flesch reading ease:**  
The higher the score, the easier it is to read.
- **flesch kincaid grade:**  
The required grade level to read; The higher the number, the more difficult the reading level.
- **gunning fog:** Long word ratio; The higher the ratio, the harder it is to understand.

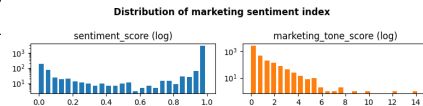
Distribution of reading ease index



**Conclusion:** Product ratings show no significant correlation with reading difficulty.

# Correlation with the marketing tone of the description

sentiment_type	compare_with	corr	p_value	conclusion
marketing_tone_score	Score	0.0588	0.0007	No significant correlation
marketing_tone_score	Polarization	-0.0469	0.0066	No significant correlation
sentiment_score	Score	0.0788	0.0000	No significant correlation
sentiment_score	Polarization	-0.0568	0.0010	No significant correlation



## Types of marketing tone (Measuring Criteria):

- ① **marketing tone score:** The proportion of exaggerated marketing language in product descriptions. The higher the score, the more exaggerated the marketing claims become.
- ② **sentiment score by language model:** model is distilbert-base-uncased-finetuned-sst-2-english, The higher the score, the more positive the emotion.

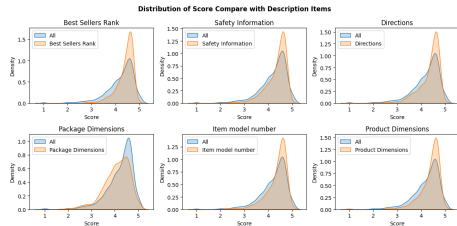
## Conclusion:

- Product ratings **show no significant correlation** with marketing tone/sentiment.
- \*However, since the metrics used to measure the emotional orientation of product descriptions do not follow a normal distribution, conclusions drawn from this basis may be unreliable.



# Correlation with product description items

item	compare_with	corr	p_value	conclusion
Best Sellers Rank	Score	0.3809	2.9e-116	Highly correlated
Directions	Score	0.2211	2.12e-38	Correlated
Item model number	Score	0.2721	4.95e-58	Correlated
Package Dimensions	Score	-0.2473	6.66e-48	Correlated
Package Dimensions	Polarization	0.1717	1.32e-23	Slightly correlated
Product Dimensions	Score	0.2715	9.67e-58	Correlated
Safety Information	Score	0.1618	4.03e-21	Slightly correlated



## Products with the following description items might have a better rating:

- **Best Sellers Rank:** Only high-quality goods carry this label.
- **Item model number & Product Dimensions:** Products with model numbers may be more formal and reliable.
- **Directions:** Products accompanied by directions may reduce negative reviews caused by users' inability to use or misuse the product.
- **Safety Information:** Products with safety information may reduce negative reviews caused by user allergies.

## Products with the following description items might have a lower rating:

- **Package Dimensions:** May receive negative reviews due to logistics-related issues.

## Chapter Conclusion

### For Sellers

- Increase the number of product images;
- Make product descriptions as professional as possible;
- Provide more detailed safety information and instructions;

### For Buyers

- Choose products with more pictures;
- Choose products that appear more professional;
- Carefully read the product descriptions to avoid potential issues;

- A set of navigation icons typically found in Beamer presentations, including symbols for back, forward, search, and other slide controls.

- different themes
- different themes
- different themes
- different themes

Thank you for listening !

Group 7

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