Sentiment Analysis of Product Reviews

Insights for Product & Marketing Teams

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Objective

Goal:

Analyze customer reviews to extract sentiment and topics for actionable business insights.

Key Questions:

- What is the overall sentiment?
- What do customers like or dislike?
- Which products are most praised or criticized?

Dataset Overview

- 1000 reviews
- 5 products (Product A–E)
- User ID, Rating (1–5), Review text, Date

|	ReviewID	ProductID	UserID	Rating	ReviewText	ReviewDate
0	REV2000	Product_E	User_114	4	fantastic. wonderful experience.	2023-04-17
1	REV2001	Product_C	User_186	2	broke easily. awful.	2023-11-27
2	REV2002	Product_E	User_101	3	met expectations. five stars.	2023-12-10
3	REV2003	Product_A	User_175	5	very satisfied. wonderful experience.	2023-11-10
4	REV2004	Product_C	User_158	1	worst purchase. one star.	2024-05-25

Sentiment Distribution

- Majority of reviews are positive
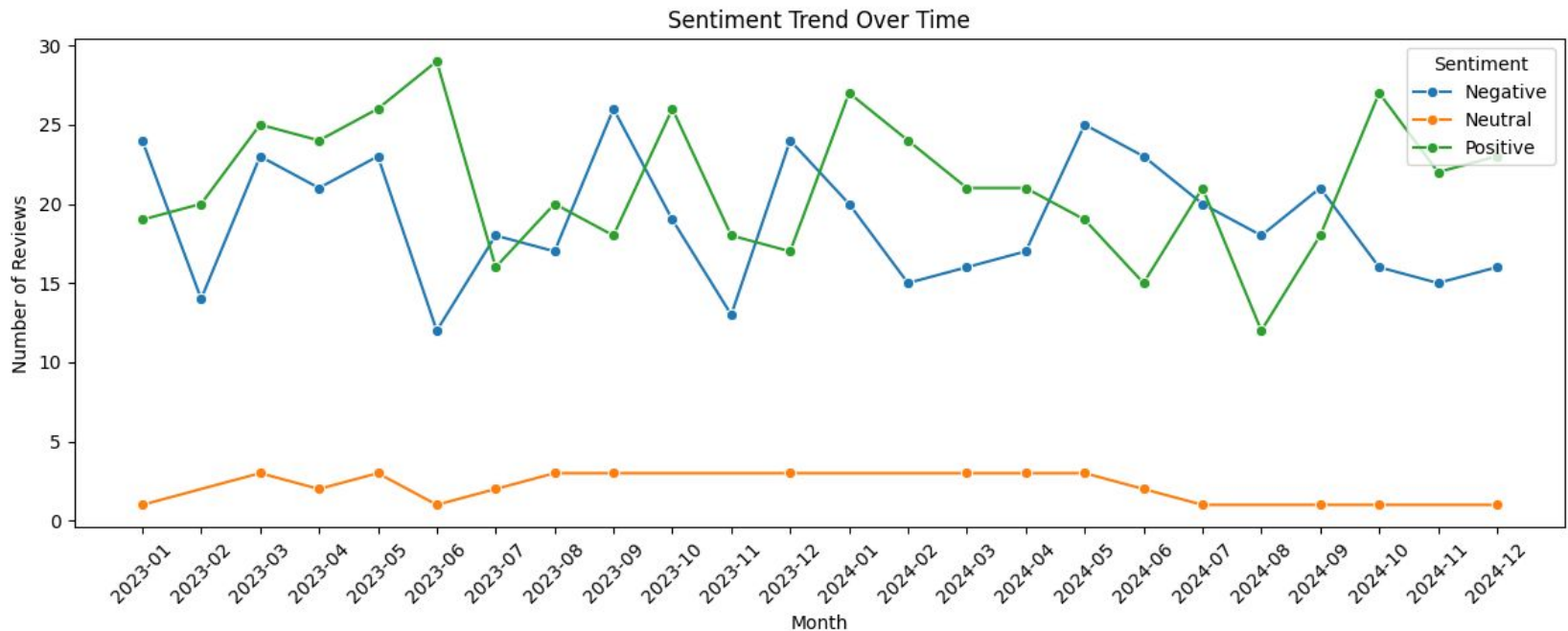- Significant portion of negative reviews to address
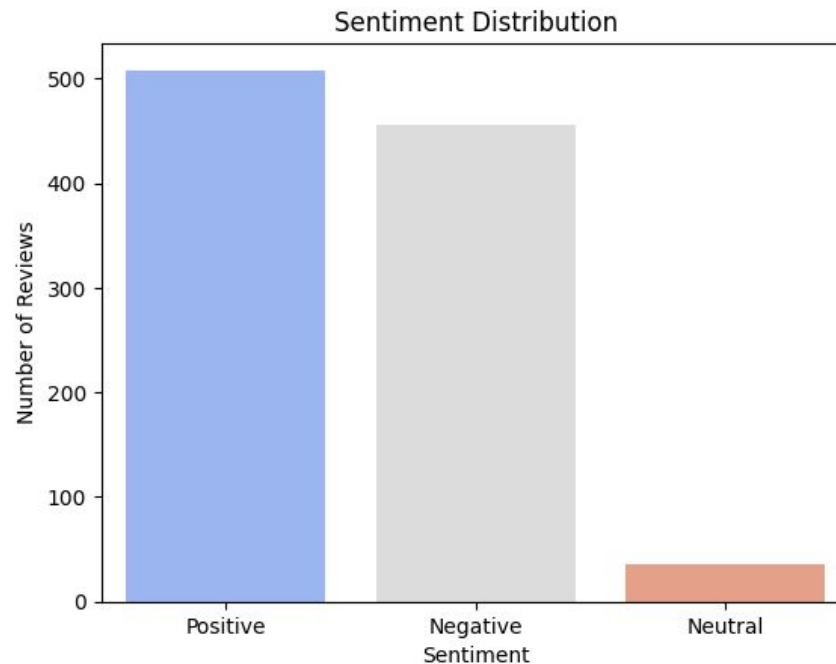
Sentiment by Rating

- High correlation between low ratings and negative sentiment
- Positive sentiment aligns with 4–5 star ratings
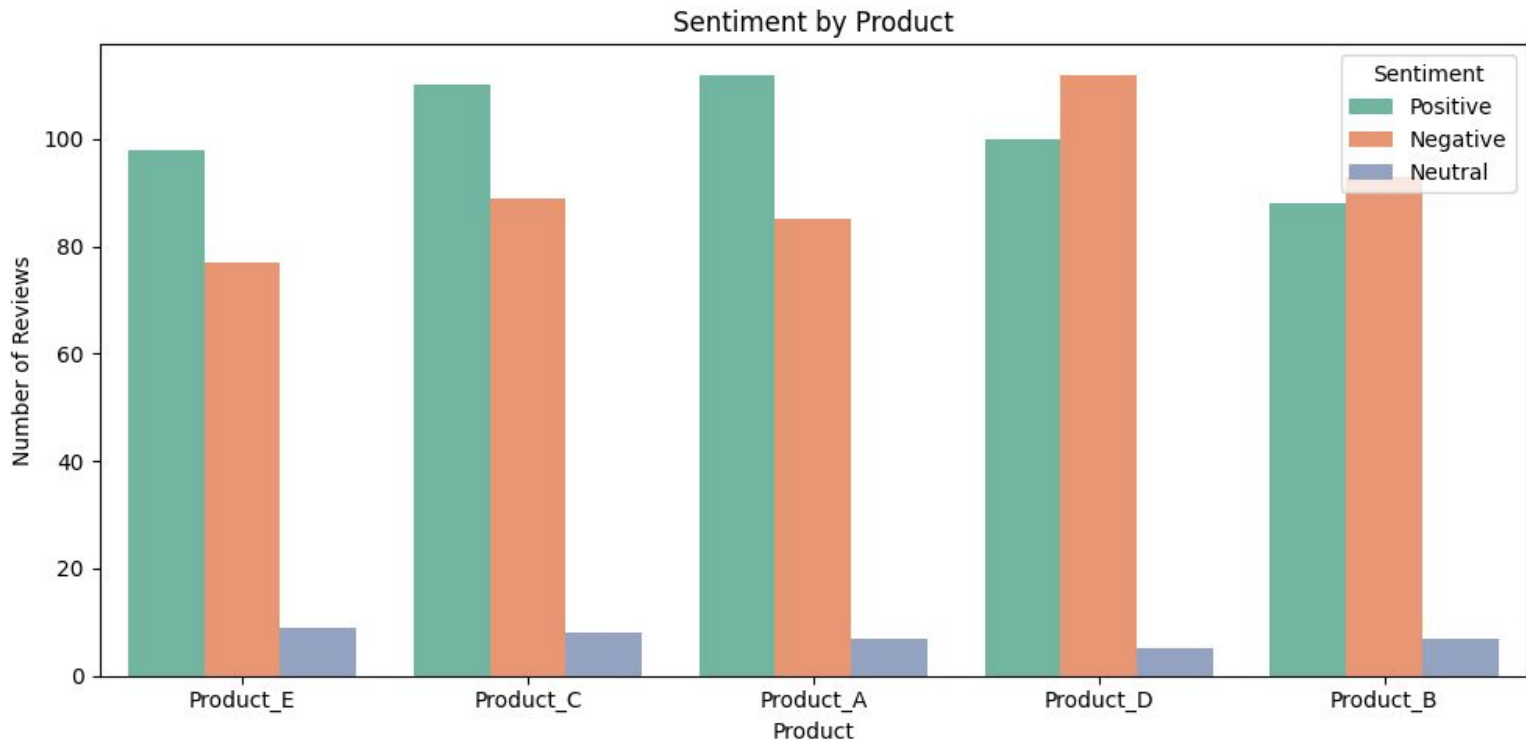

Review Rating By Sentiment
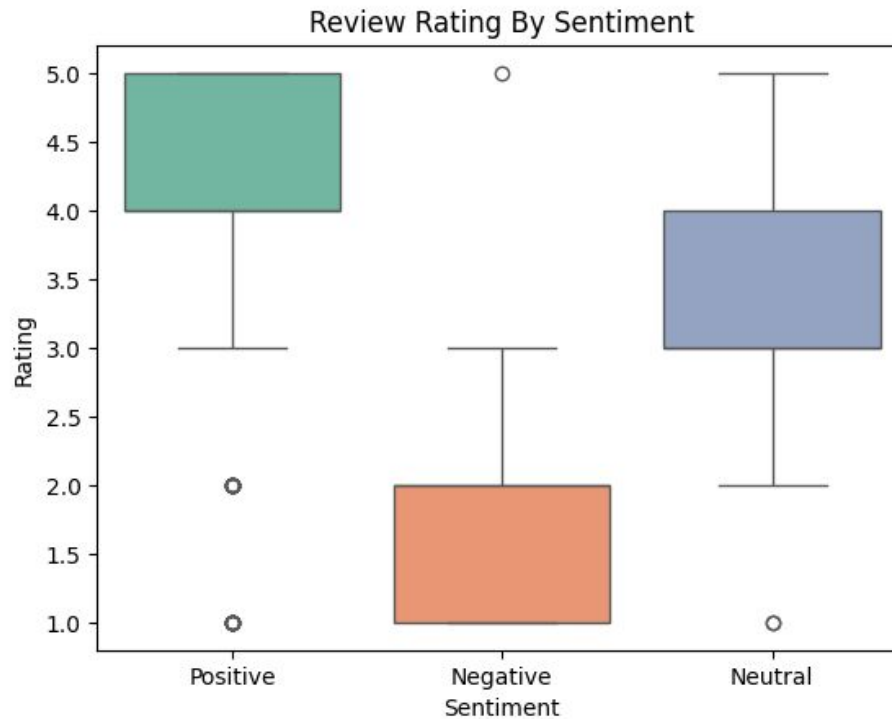
Time-based Sentiment Trends

- Spikes in negative sentiment in mid-2023
- Opportunities to investigate product changes/releases during this period

Sentiment by Product

- Product B and D have highest number of negative reviews
- Product A and C received more consistent praise

Sentiment by Product

Word Clouds

Positive Reviews:

Words like "excellent", "satisfied", "love" dominate

World Cloud - Positive Reviews

Word Clouds

Negative Reviews:

Frequent issues: "poor quality", "broke", "worst", "disappointed"

Word Cloud - Negative Reviews

Topic Modeling on Negative Reviews

Key Themes Identified:

- Product quality and durability
- Missing parts or incomplete delivery
- Poor usability or confusing setup

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Topic 1:  bad | purchase | worst | good | experience | better | disappointed | expectation | okay | pro
Topic 2:  use | difficult | quality | poor | disappointed | okay | recommend | pro | average | awful
Topic 3:  awful | star | decent | price | recommend | pro | broke | easily | worst | purchase
Topic 4:  bad | product | customer | service | terrible | work | broke | easily | experience | expected
Topic 5:  feature | missing | money | waste | met | expectation | disappointed | okay | better | work
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Actionable Insights

Marketing Team:

- Promote positive feedback themes in campaigns:
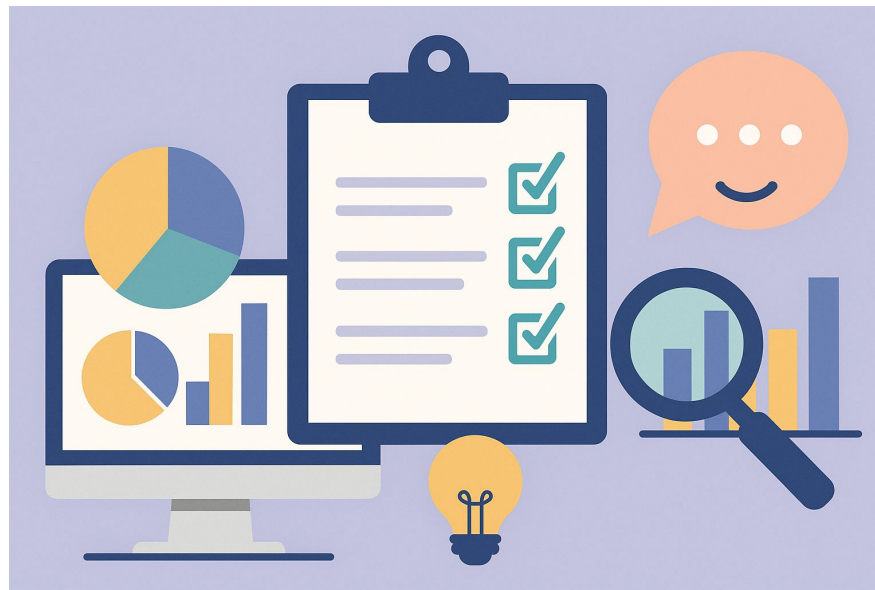
  easy to use | great value | excellent experience

- Use strong positive sentiment in testimonials

Conclusion

- Sentiment analysis reveals actionable themes for improvement
- Repeating product issues need urgent resolution
- Monitoring reviews regularly will improve responsiveness

Thank You / Q&A

- Any questions?