

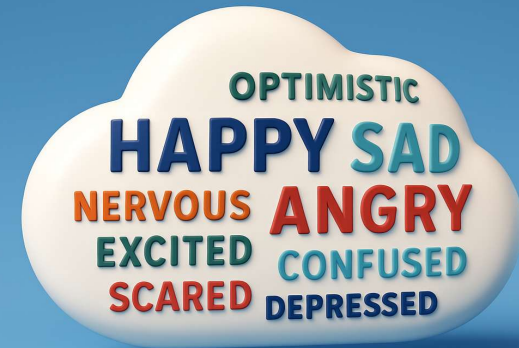
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BMW Sentiment Analysis

REAL-WORLD DATA ANALYSIS PROJECT | POWERED
BY EXCEL

Project Overview & Context

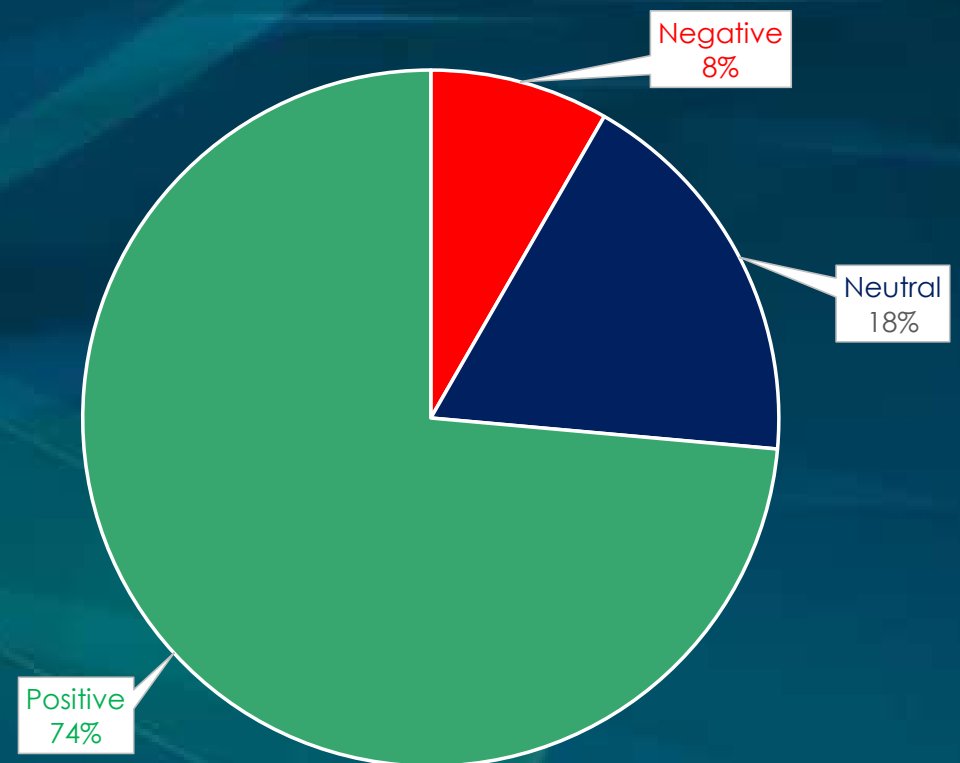
- This project was completed using anonymized BMW customer review data by Pivitt Ltd, a branding agency that has worked with BMW group. The aim was to extract actionable insights from real sentiment data using Excel.
- For this analysis I combined both numerical metrics and manual text review to uncover patterns that go beyond surface level sentiment scores – delivering insight into **brand loyalty bias**, **emotional language patterns** and **customer behaviour**.



Overall Sentiment Distribution

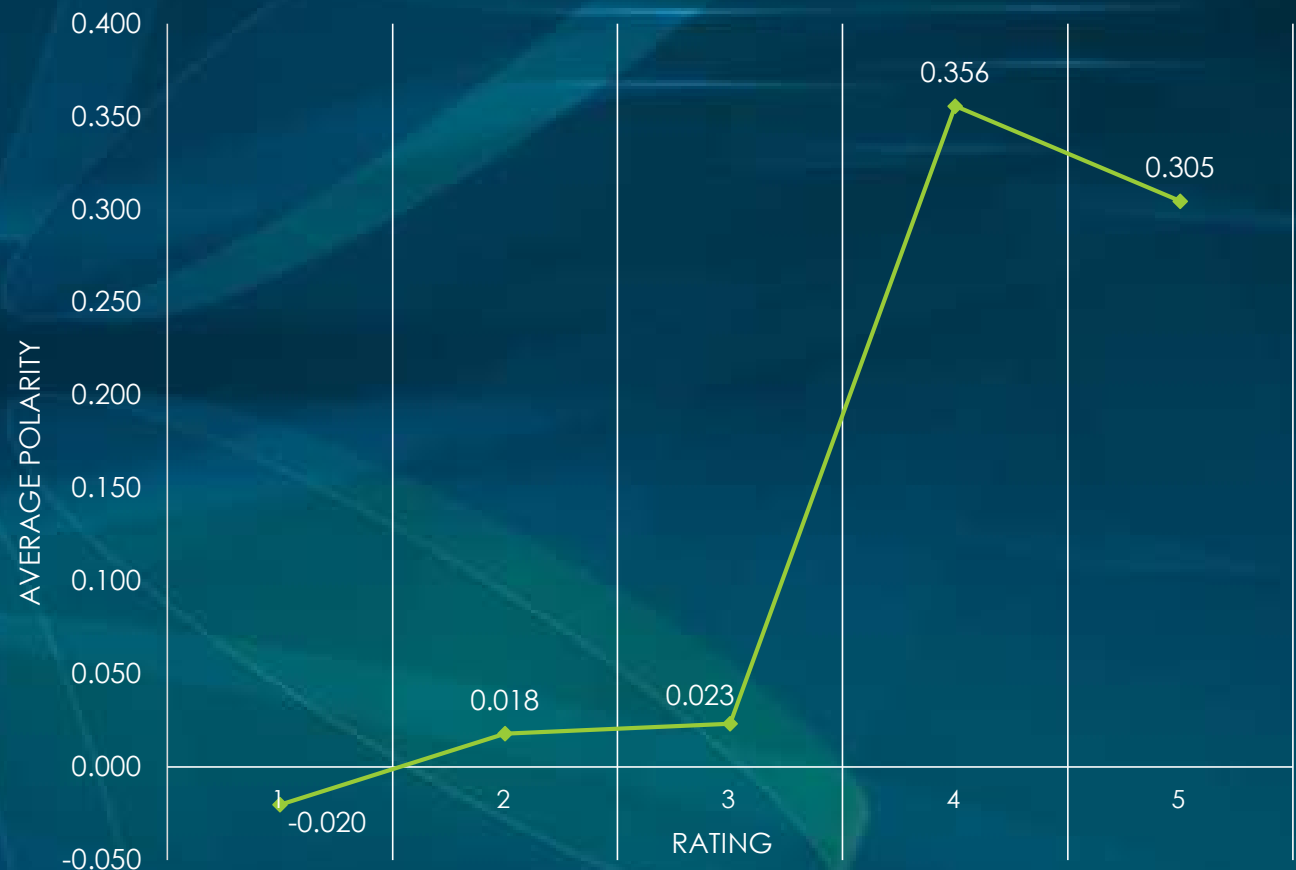
- The data shows a majority (74%) of reviews are classified as “Positive” suggesting high brand satisfaction. However, deeper text analysis revealed these were often short, vague comments — hinting at **brand loyalty** influencing sentiment rather than genuine experience. This highlights the importance of **qualitative review** alongside data percentages.

Sentiment Percentage:



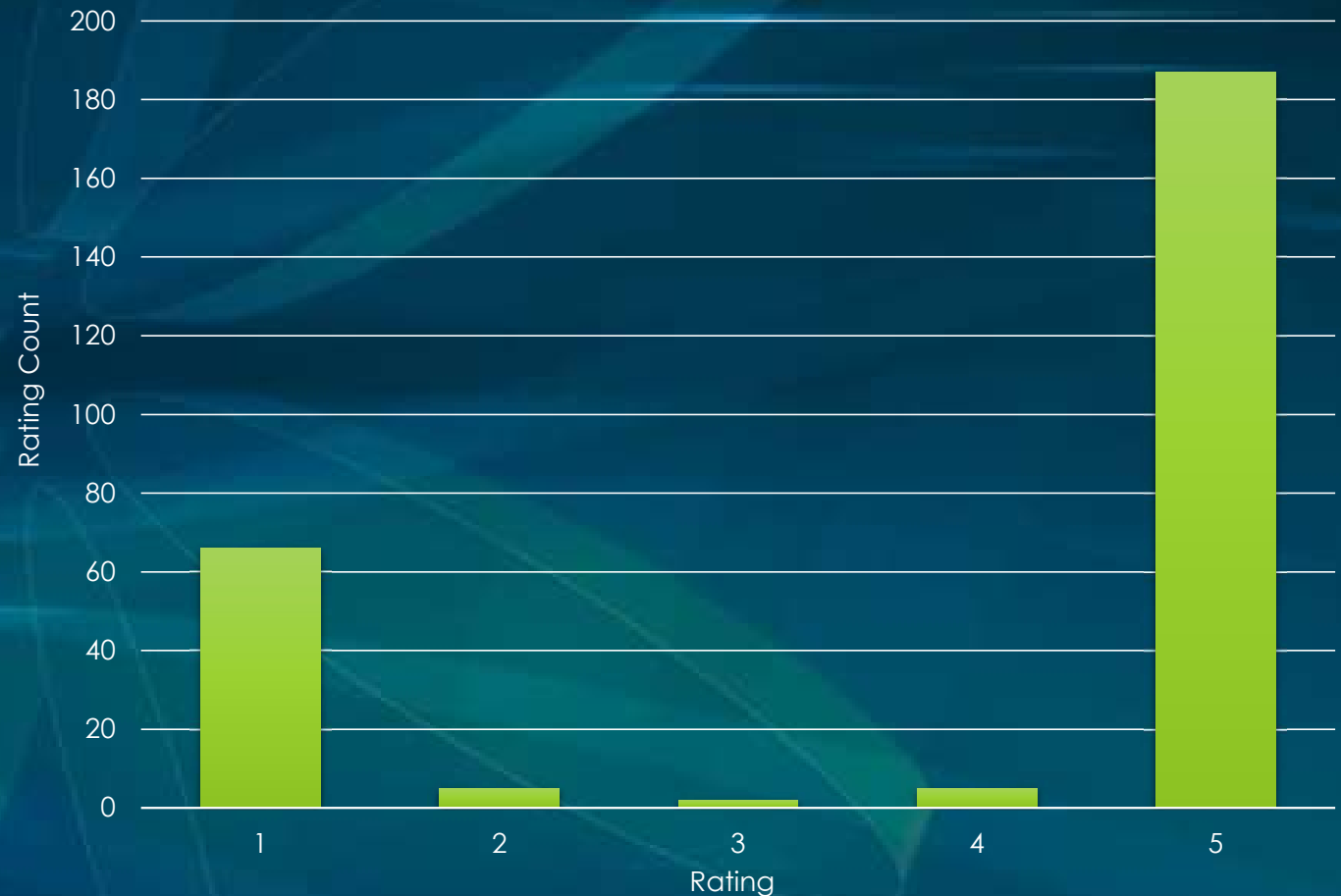
Average Polarity by Rating (Line Graph)

- As expected, 4–5-star ratings correlate with higher polarity showing more positive sentiment.
- However, despite the lower frequency of 1–2-star reviews, they displayed lower polarity – aligning with more emotional and intense wording.
- This reveals how **negative customer experiences produce more expressive language**, which is not always fully captured by numbers alone.



Ratings Distribution

- Ratings as showcased by the graph are heavily skewed toward 5 stars, representing a strong satisfaction or loyalty bias.
- However, the qualitative analysis (deeper dive into the data manually) of the **5 – star reviews** shows many of them were short and vague, often referencing BMW as a brand rather than the actual experience.
- This points to perceived reputation influencing customer responses more than service reality.



Behind the charts: Pivot Tables & Manual Review

Pivot table example

Rating: ▼	Rating Count
1	66
2	5
3	2
4	5
5	187
Grand Total	265

➤ Manual review demonstrated while a vast amount of positive feedback was genuine, others lacked depth — often praising BMW's reputation rather than experience. Negative reviews, however, tended to be longer overall and emotionally detailed. This gap highlights the importance of **qualitative data alongside sentiment scoring**.

■ Simplified Positive Review (5 stars):
"I'm not a fan of BMW but it's rich in definition."

■ Detailed Negative Review (1 star):
"Terrible service and attitude... sales lady was dreadful, made many mistakes..."

The visual insights above were powered by structured pivot tables that grouped ratings and sentiment metrics. But beyond pivots, I also manually reviewed the text of reviews, an essential step for **qualitative interpretation**, identifying brand loyalty language, emotional tone, and linguistic patterns that would otherwise go unnoticed.

These examples represent trends seen across the dataset, not isolated cases.

Key Takeaways

<u>Type</u>	<u>Insight</u>
Quantitative	74% of reviews are classified as 'Positive'
Qualitative	5-star reviews often vague - negative reviews emotional
Combined	Brand loyalty bias likely has an influence on sentiment

Analysts often rely on metrics alone, but true value lies in combining emotional cues with data. This approach led me to a deeper, more human-centered insights — something most dashboards would miss entirely.

Conclusion & Future Expansion

● What I Learned:

- How to visualize real-world data clearly
- How to extract emotion and tone from written reviews
- The power of mixing logic (numbers) with empathy (language)

● How I would Improve:

- Add Power BI for interactive slicing/filtering use
- Text analytics (NLP or keyword clustering)
- Work with larger sets of data to expand sentiment patterns

● Next Projects:

- SQL-based analysis
- Interactive dashboards
- Advanced sentiment & topic modelling



THANK YOU FOR VIEWING MY ANALYSIS OF BMW CUSTOMER SENTIMENT DATA.
I'M EXCITED TO CONTINUE GROWING AS A DATA ANALYST, APPLYING BOTH TECHNICAL SKILLS AND
CRITICAL THINKING TO UNCOVER WHAT THE NUMBERS ARE REALLY SAYING.

IF YOU'D LIKE TO CONNECT, COLLABORATE, OR DISCUSS THIS PROJECT, FEEL FREE TO REACH OUT.

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Thank You