Retail Analysis

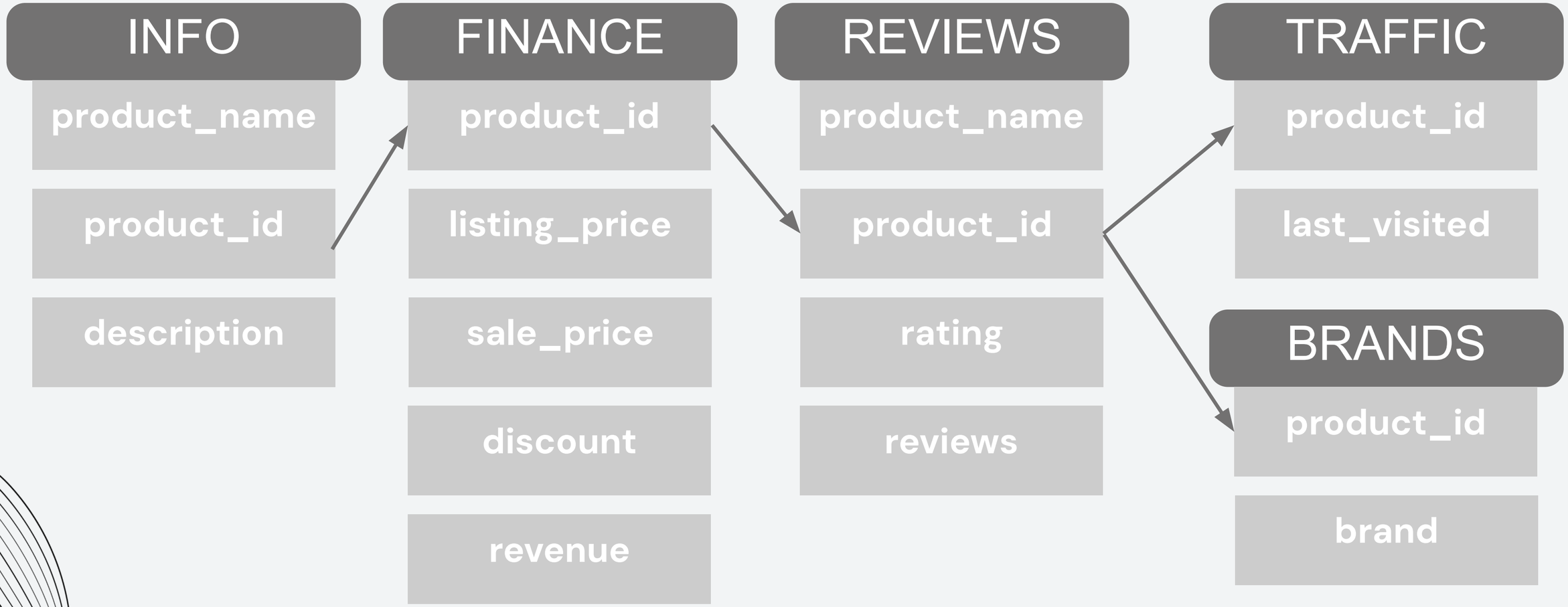
NIKE

VS

ADIDAS

CONTENT

DESCRIPTION OF DATASET



- The database comprises five tables, and **product_id** serves as the primary key in each of them.
- The dataset shows minimal occurrences of missing values, constituting less than 5% of the overall data. As a result, there is no need for additional processing.

DATA ANALYSIS

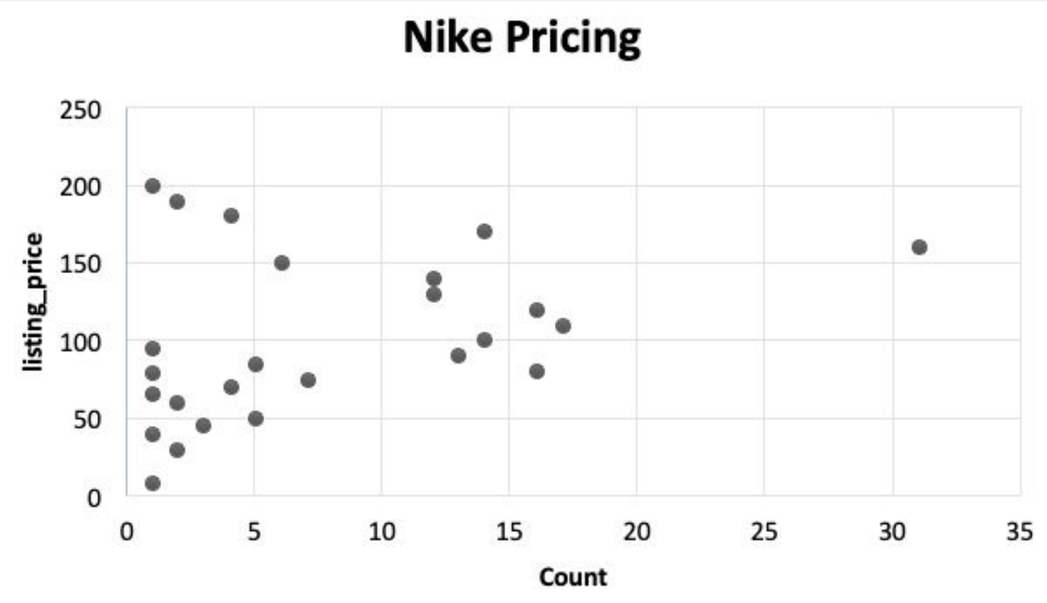
Counting Missing Values

We can see the database contains 3,179 products in total. Of the columns we previewed, only one — last_visited — is missing more than five percent of its values.

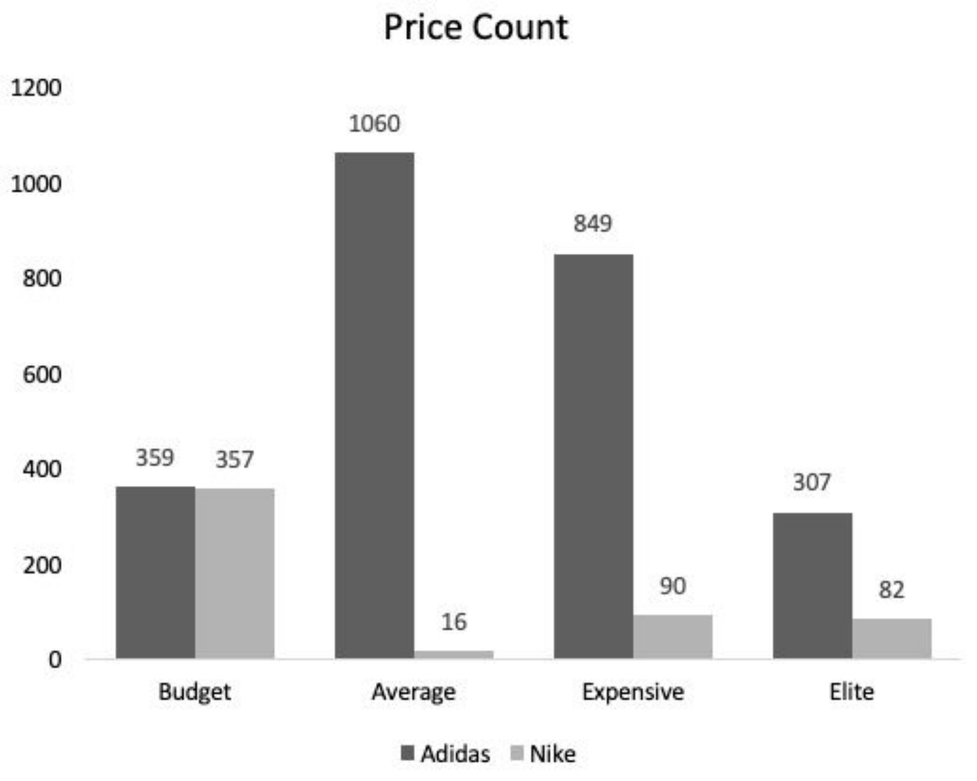
total_rows	count_description	count_listing_price	count_last_visited
3179	3117	3120	2928

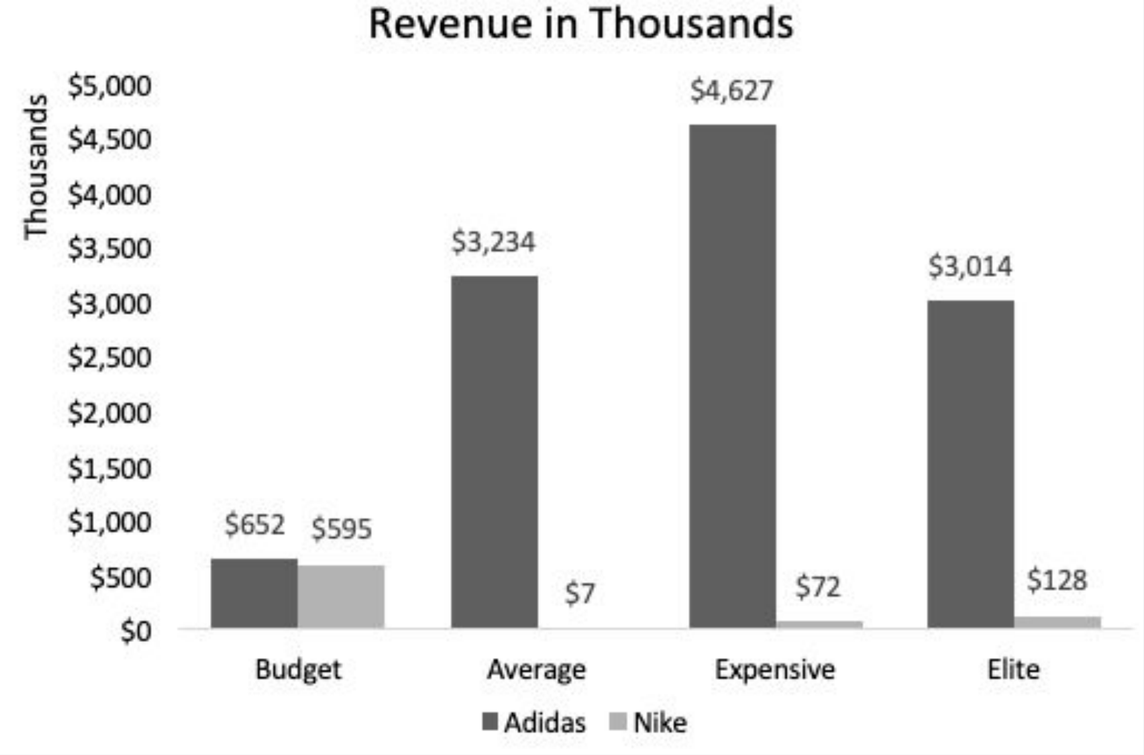
Nike vs. Adidas Pricing

- Distribution of the listing_price and the count for each price, grouped by brand
- 77 unique price points



Price Ranges





DISCOUNT BY BRAND

NIKE

★★★

WE DON’T DO ANY DISCOUNT

ADIDAS

★★★★★

We offer an average discount of **33.45%!**

KEY TAKEWAY

REVENUE

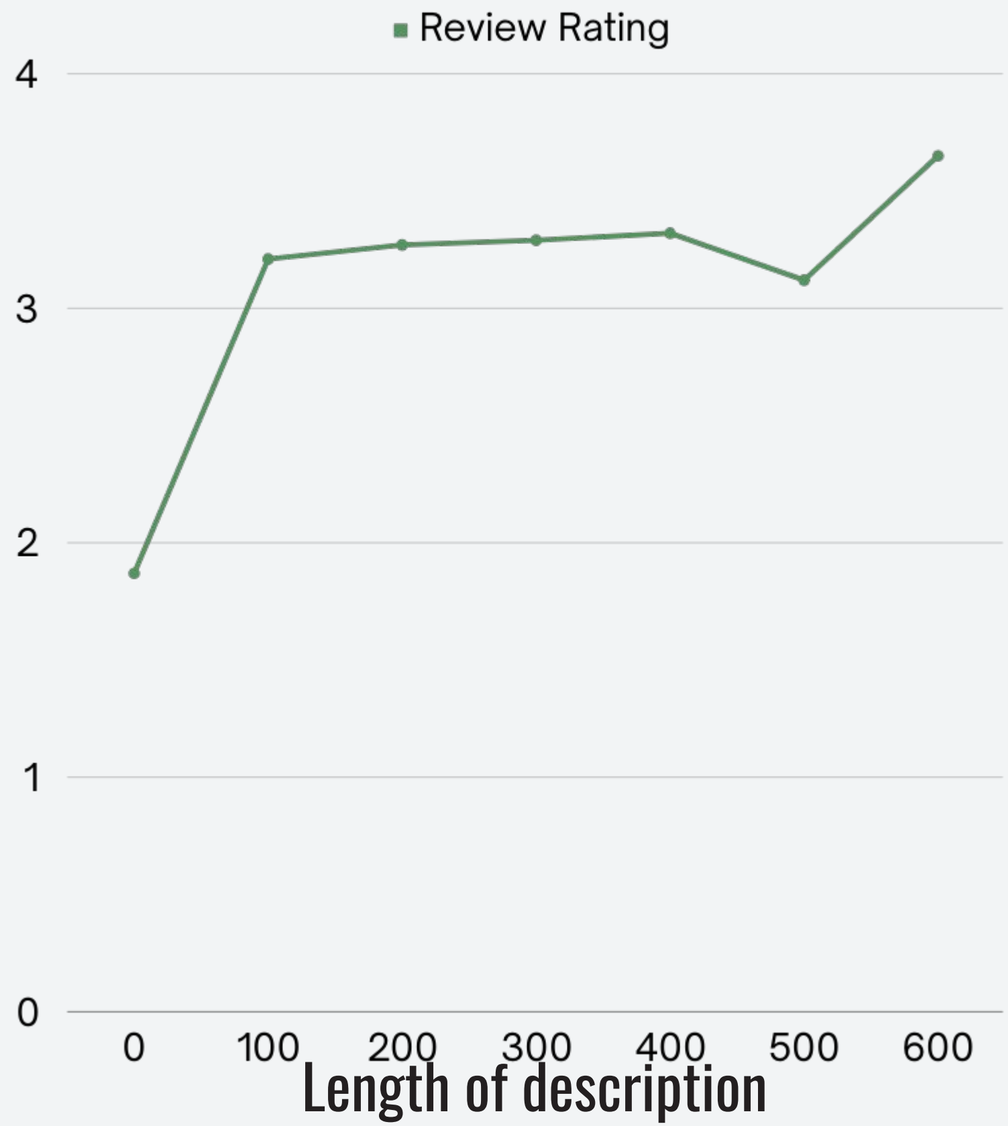
+

REVIEWS

CORRELATION = 0.6519

- Pretty strong correlation
- Potential to increase sales with a larger number of reviews

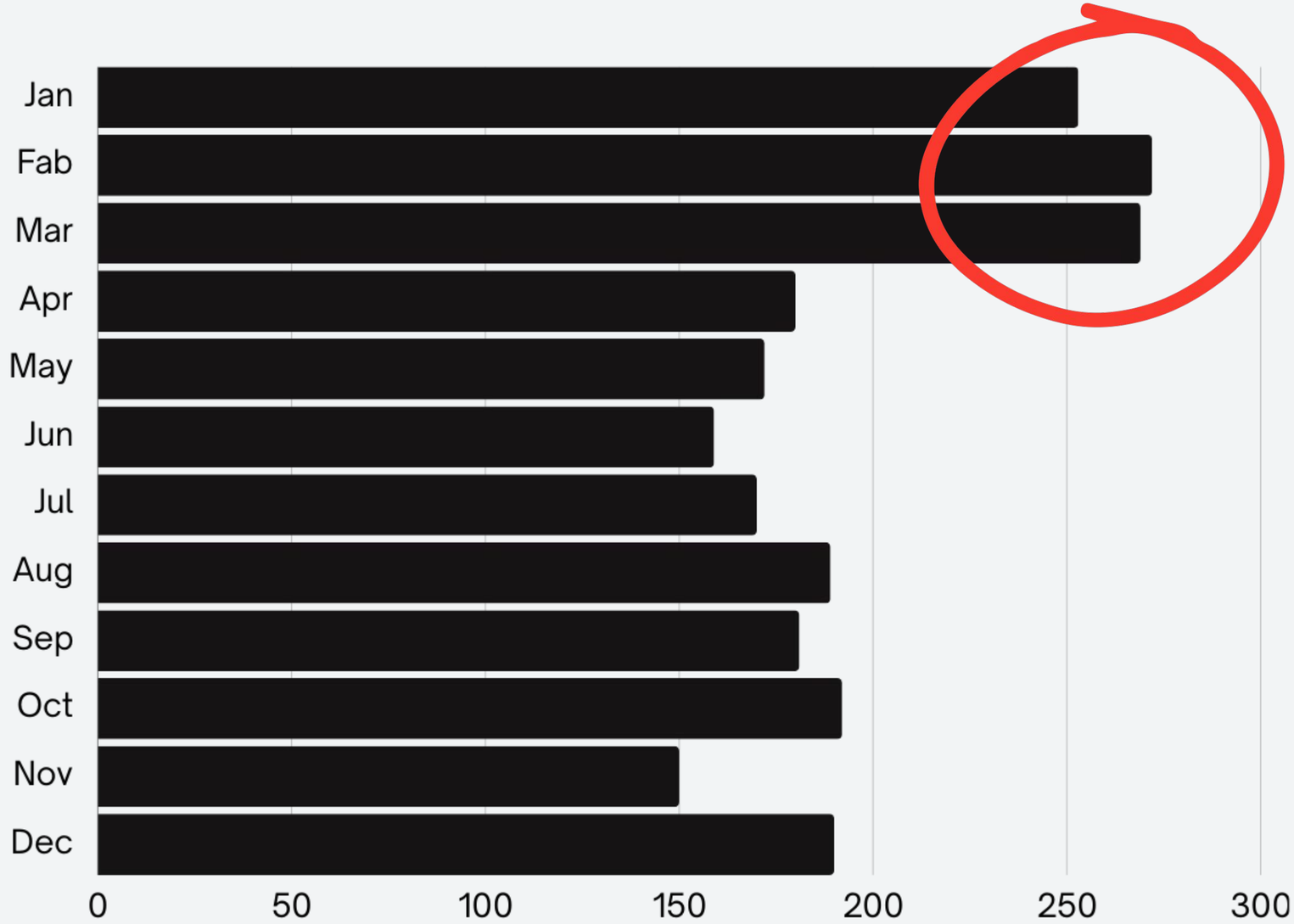
WORD COUNT MATTERS?



No clear pattern

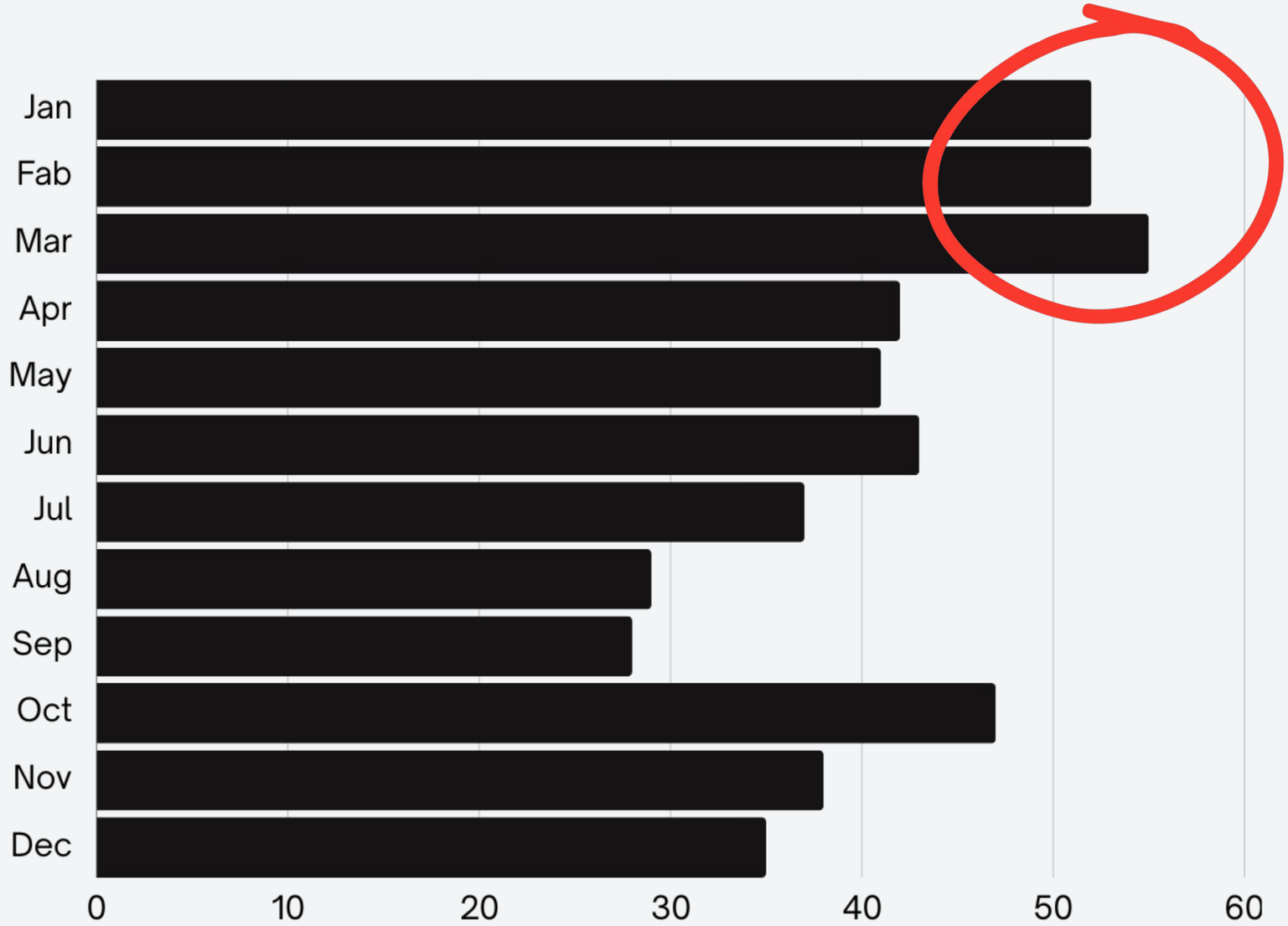
Between the length of the product's description and its rating.

ADIDAS REVIEWS BY MONTH



Highest reviews in the first quarter of the year

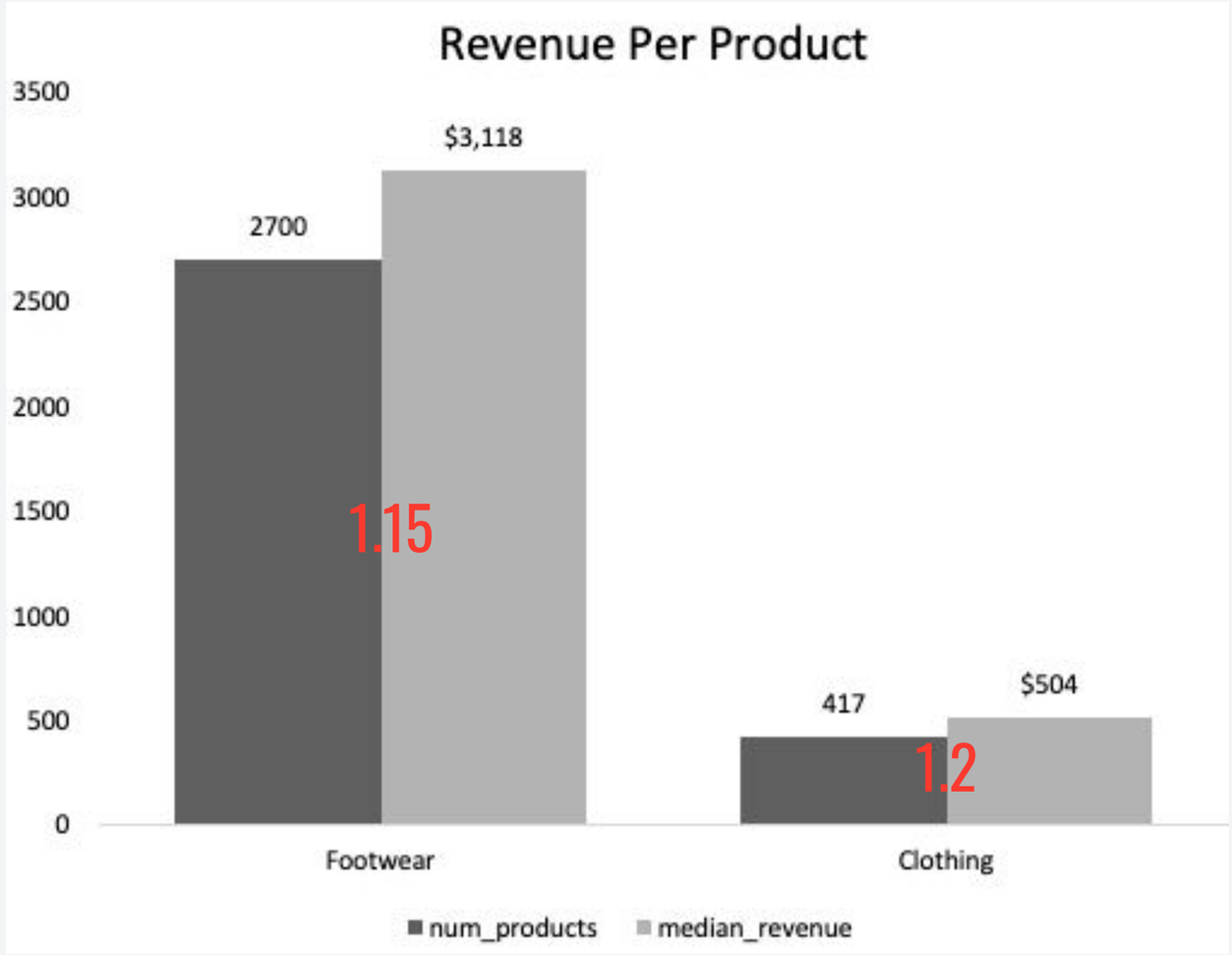
NIKE REVIEWS BY MONTH



Same principle here, highest reviews in the first quarter of the year

SIDE BY SIDE COMPARISON

Product Performance



STATEGIC VALUE

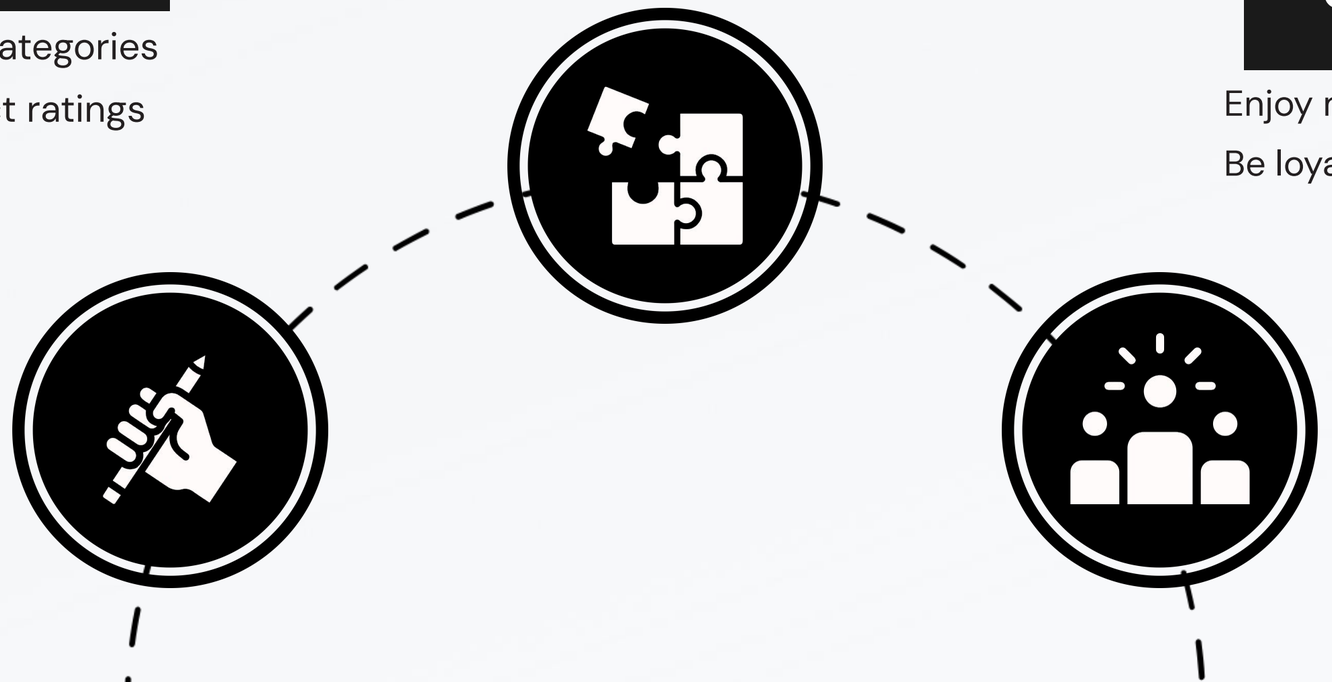
Decision makers: Discounts

Based on different price categories

Based on different product ratings

Decision makers: Reviews

Consumer engagements



Consumers: User experience

Enjoy more customized services

Be loyal to the company

RECOMMENDATIONS

Revenue Optimization Strategies

Product Mix Enhancement:
Strategically allocate more inventory space to high-performing Adidas products to boost revenue.

Discount Strategy Refinement:
Consider adjusting discounts across brands to potentially increase overall revenue.

Sales Enhancement (Customer Engagement)

Review-Driven Sales Boost:
Encourage and increase the number of product reviews and leverage the strong positive correlation between reviews and revenue to boost sales.

Seasonal Review Volume Experimentation:
Run experiments to increase review volume in the latter nine months.

Product Portfolio and Revenue Insights

Footwear Dominance:
Recognize and leverage the substantial revenue potential of footwear products.

Clothing Product Performance:
Evaluate and refine strategies to enhance the revenue contribution of clothing products.

APPENDIX

```
1. SELECT COUNT(*) AS total_rows,
    COUNT(i.description) AS count_description,
    COUNT(f.listing_price) AS count_listing_price,
    COUNT(t.last_visited) AS count_last_visited
FROM info AS i
INNER JOIN finance AS f ON i.product_id = f.product_id
INNER JOIN traffic AS t on t.product_id = f.product_id;
```

```
2. SELECT b.brand, f.listing_price::integer, COUNT(f.*)
FROM finance AS f
INNER JOIN brands AS b
    ON f.product_id = b.product_id
WHERE f.listing_price > 0
GROUP BY b.brand, f.listing_price
ORDER BY listing_price DESC;
```

```
3. SELECT b.brand, COUNT(f.*), SUM(f.revenue) as total_revenue,
CASE WHEN f.listing_price < 42 THEN 'Budget'
    WHEN f.listing_price >= 42 AND f.listing_price < 74 THEN
'Average'
    WHEN f.listing_price >= 74 AND f.listing_price < 129 THEN
'Expensive'
    ELSE 'Elite' END AS price_category
FROM finance AS f
INNER JOIN brands AS b
    ON f.product_id = b.product_id
WHERE b.brand IS NOT NULL
GROUP BY b.brand, price_category
ORDER BY total_revenue DESC;
```

```
4. SELECT b.brand, AVG(f.discount) * 100 AS
average_discount
FROM brands AS b
INNER JOIN finance AS f
    ON b.product_id = f.product_id
GROUP BY b.brand
HAVING b.brand IS NOT NULL
ORDER BY average_discount;
```

```
5.  SELECT corr(r.reviews, f.revenue) AS
review_revenue_corr
FROM reviews AS r
INNER JOIN finance AS f
    ON r.product_id = f.product_id;
```

6.
```
SELECT TRUNC(LENGTH(i.description), -2) AS description_length,
    ROUND(AVG(r.rating::numeric), 2) AS average_rating
FROM info AS i
INNER JOIN reviews AS r
    ON i.product_id = r.product_id
WHERE i.description IS NOT NULL
GROUP BY description_length
ORDER BY description_length;
```

7.
```
SELECT b.brand, DATE_PART('month', t.last_visited) AS month, COUNT(r.*) AS
num_reviews
FROM brands AS b
INNER JOIN traffic AS t
    ON b.product_id = t.product_id
INNER JOIN reviews AS r
    ON t.product_id = r.product_id
GROUP BY b.brand, month
HAVING b.brand IS NOT NULL
    AND DATE_PART('month', t.last_visited) IS NOT NULL
ORDER BY b.brand, month;
```

8.
```
WITH footwear AS
(
    SELECT i.description, f.revenue
    FROM info AS i
    INNER JOIN finance AS f
        ON i.product_id = f.product_id
    WHERE i.description ILIKE '%shoe%'
        OR i.description ILIKE '%trainer%'
        OR i.description ILIKE '%foot%'
        AND i.description IS NOT NULL
)

SELECT COUNT(*) AS num_footwear_products,
    percentile_disc(0.5) WITHIN GROUP (ORDER BY revenue) AS
median_footwear_revenue
FROM footwear;
```

9.
```
WITH footwear AS
(
    SELECT i.description, f.revenue
    FROM info AS i
    INNER JOIN finance AS f
        ON i.product_id = f.product_id
    WHERE i.description ILIKE '%shoe%'
        OR i.description ILIKE '%trainer%'
        OR i.description ILIKE '%foot%'
        AND i.description IS NOT NULL
)

SELECT COUNT(i.*) AS num_clothing_products,
    percentile_disc(0.5) WITHIN GROUP (ORDER BY f.revenue) AS
median_clothing_revenue
FROM info AS i
INNER JOIN finance AS f on i.product_id = f.product_id
WHERE i.description NOT IN (SELECT description FROM footwear);
```

THANK YOU