SALES AND SENTIMENT ANALYSIS FOR ALLKIND NATURALS

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ABOUT THE COMPANY

AllKind Naturals is designed to be inclusive and non-gender-specific, catering to a broad audience with its natural product formulations. The brand has been performing well in the market, indicating a strong consumer response to its ethos and offerings.

It spans three primary product lines—face, body, and hair care—comprising a total of 12 products. Each product line is crafted to meet the diverse needs of its customer base, emphasizing natural ingredients and sustainability.

PRODUCT CATEGORY AND NAMES

Face

Rejuvenating Face Wash

Daily Facial Moisturizer

Anti-Aging Cream

Night Repair Serum

Pore Refining Toner

Body

Exfoliating body Scrub

Moisturizing body Wash

Body lotion

Hair

Hydrating Shampoo

Strengthening Conditioner

Curl Defining Cream

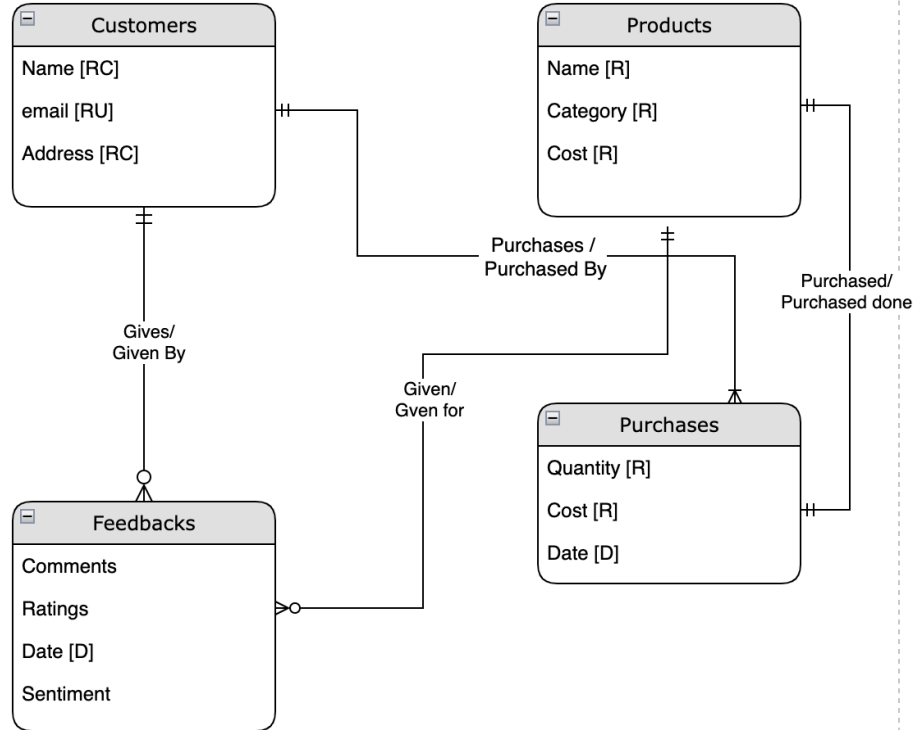Shine Serum

PROBLEM STATEMENT

In order to improve sales, In today's competitive market, understanding customer feedback is crucial for the success of any product.

Brand Allkind Naturals, operates in the skincare industry and offers a range of products to its customers. However, analysing sales and keeping track of customer sentiment and leveraging feedback to improve products and make strategic decisions has been a challenge.

CONCEPTUAL MODEL

Customers

Name [RC]

email [RU]

Address [RC]

Products

Name [R]

Category [R]

Cost [R]

Purchases /
Purchased By

Purchased/
Purchased done

Gives/
Given By

Given/
Gven for

Purchases

Quantity [R]

Cost [R]

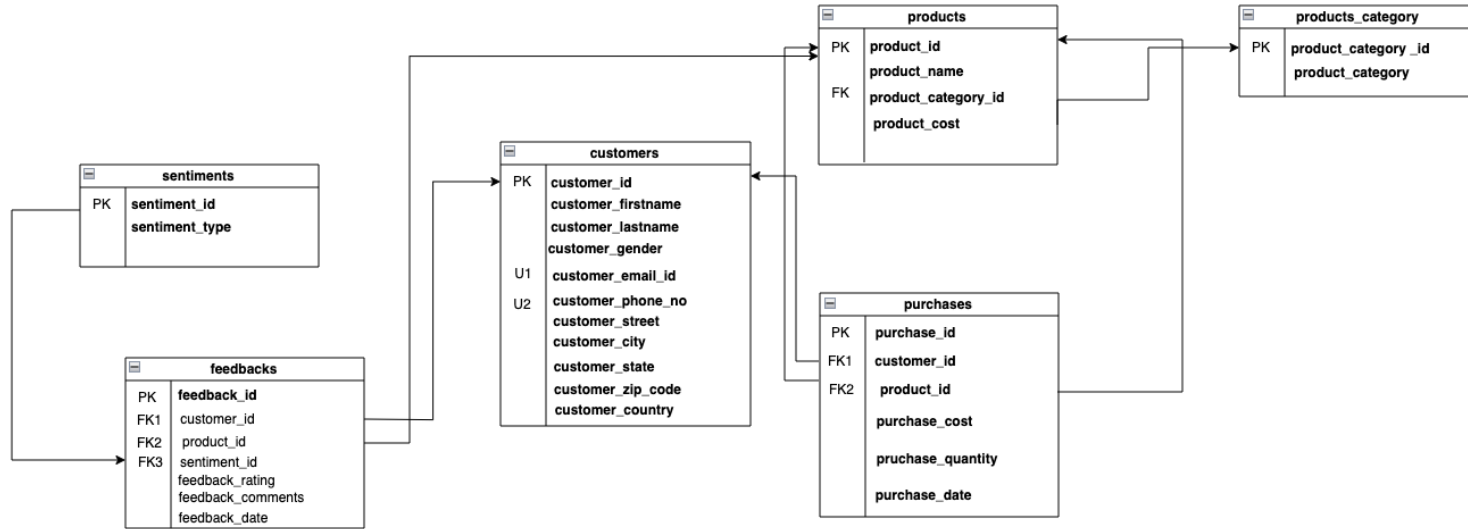Date [D]

Feedbacks

Comments

Ratings

Date [D]

Sentiment

LOGICAL MODEL

TABLES USED FOR VISUALIZATION

SENTIMENTS

Captures the sentiments of the customers

FEEDBACK

Feedback provided from customers about products

CUSTOMERS

Information about customers

PRODUCTS

Names of products

PURCHASES

Purchase information

CATEGORY

Description of product category

USER STORIES OVERVIEW

1 — Product wise sales analysis

2 — Region wise sales analysis

3 — Gender wise sales analysis
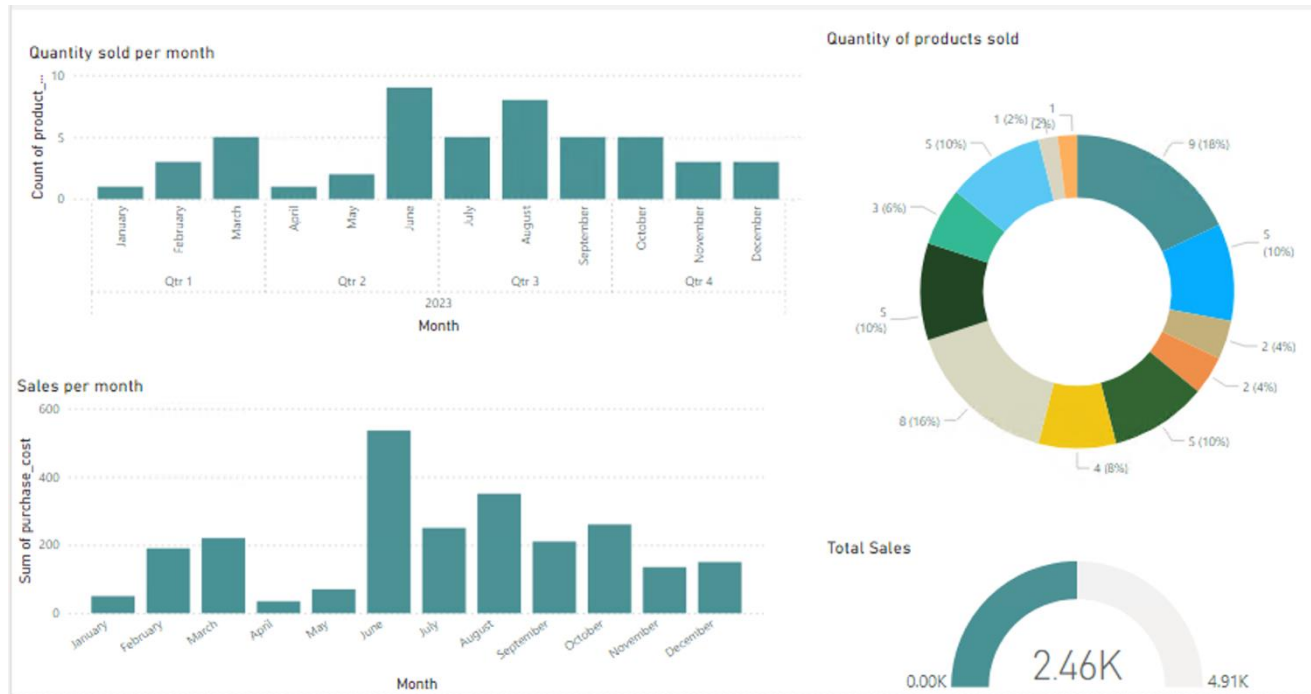
4 — Sentiment analysis for products

5 — Feedback analysis for products

USER STORY-1

Product wise sales : As sales analysts, we aim to conduct a comprehensive analysis of sales performance. We need to analyze the quantity of products sold and corresponding revenue, product popularity, track sales revenue trends and make informed business decisions.

USER STORY- 2

Region wise sales: As sales managers, we need to analyze sales data to identify geographic regions with high or low sales performance, enabling targeted marketing efforts and resource allocation for improved regional sales growth.
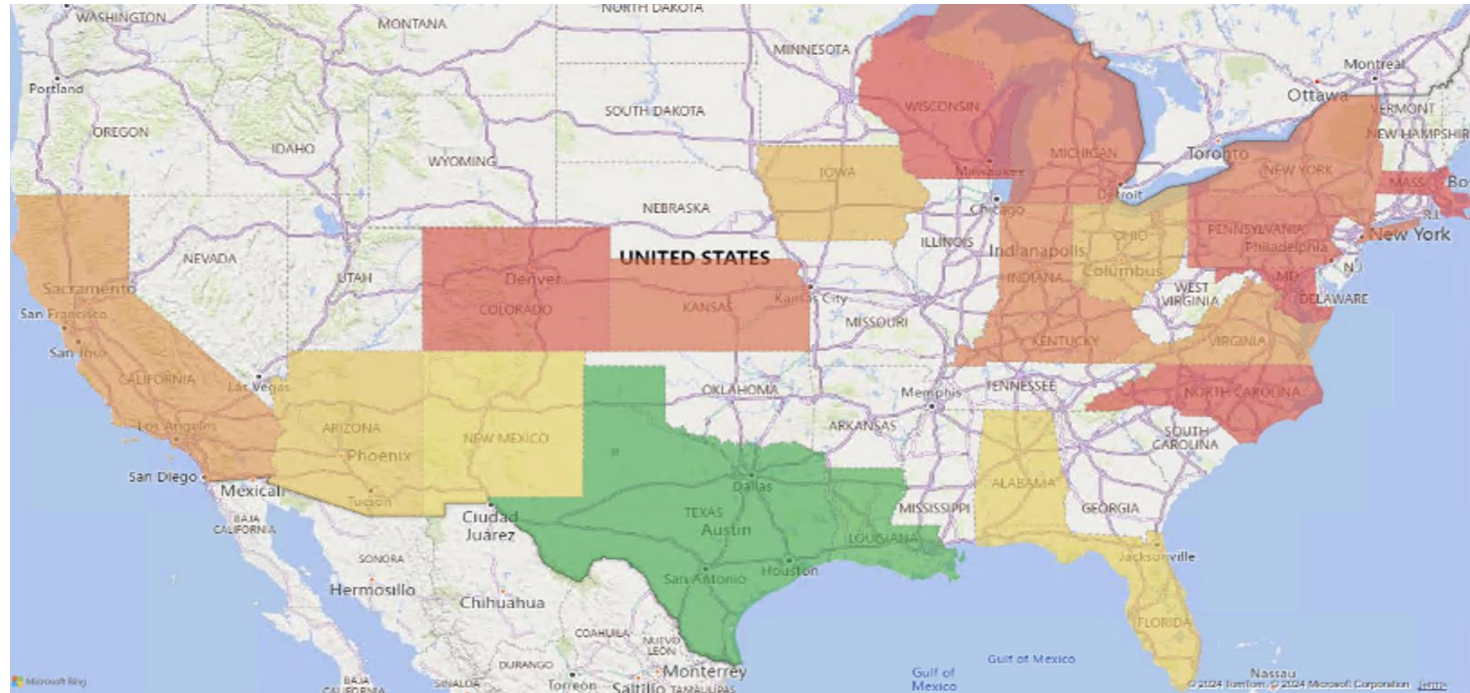
USER STORY- 3

Gender wise analysis: We aim to analyze sales and feedback data by gender to understand customer preferences. Analyzing sa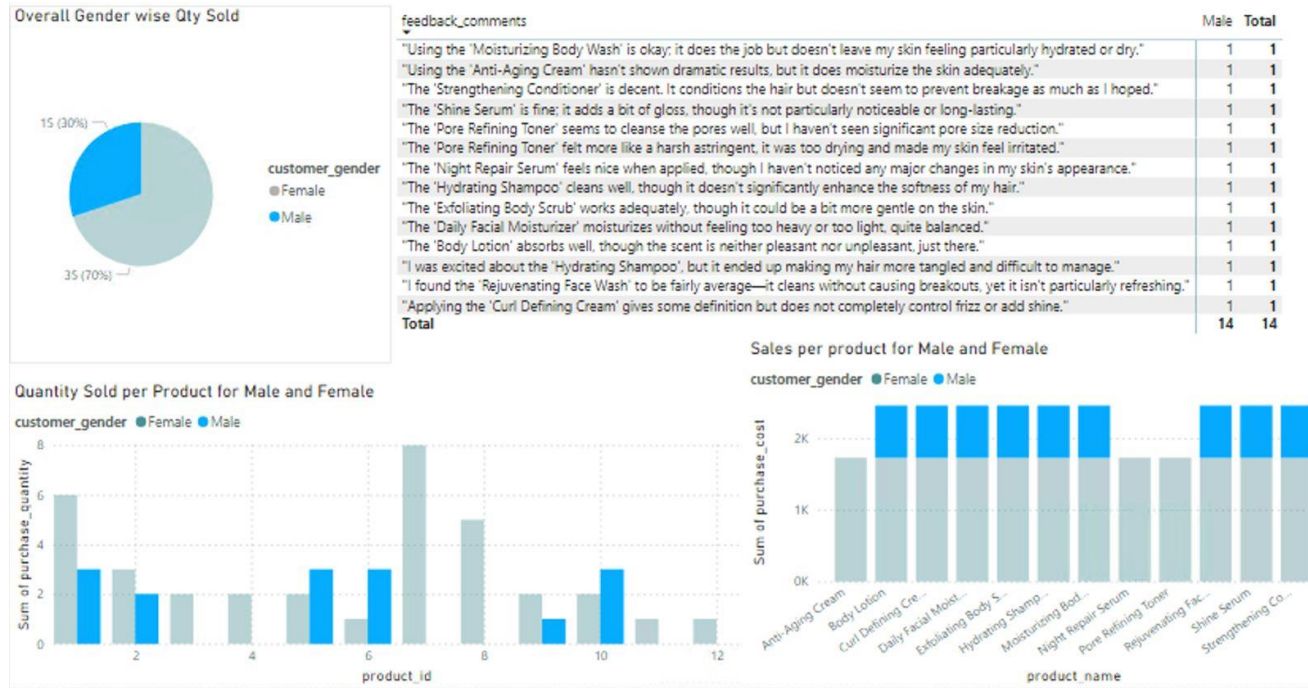les quantity and feedback by gender helps identify trends and optimize strategies for improved sales performance and customer satisfaction.

Overall Gender wise Qty Sold

15 (30%)

35 (70%)

customer_gender
- Female
- Male

feedback_comments	Male	Total
"Using the 'Moisturizing Body Wash' is okay; it does the job but doesn't leave my skin feeling particularly hydrated or dry."	1	1
"Using the 'Anti-Aging Cream' hasn't shown dramatic results, but it does moisturize the skin adequately."	1	1
"The 'Strengthening Conditioner' is decent. It conditions the hair but doesn't seem to prevent breakage as much as I hoped."	1	1
"The 'Shine Serum' is fine; it adds a bit of gloss, though it's not particularly noticeable or long-lasting."	1	1
"The 'Pore Refining Toner' seems to cleanse the pores well, but I haven't seen significant pore size reduction."	1	1
"The 'Pore Refining Toner' felt more like a harsh astringent, it was too drying and made my skin feel irritated."	1	1
"The 'Night Repair Serum' feels nice when applied, though I haven't noticed any major changes in my skin's appearance."	1	1
"The 'Hydrating Shampoo' cleans well, though it doesn't significantly enhance the softness of my hair."	1	1
"The 'Exfoliating Body Scrub' works adequately, though it could be a bit more gentle on the skin."	1	1
"The 'Daily Facial Moisturizer' moisturizes without feeling too heavy or too light, quite balanced."	1	1
"The 'Body Lotion' absorbs well, though the scent is neither pleasant nor unpleasant, just there."	1	1
"I was excited about the 'Hydrating Shampoo', but it ended up making my hair more tangled and difficult to manage."	1	1
"I found the 'Rejuvenating Face Wash' to be fairly average—it cleans without causing breakouts, yet it isn't particularly refreshing."	1	1
"Applying the 'Curl Defining Cream' gives some definition but does not completely control frizz or add shine."	1	1
Total	14	14

Quantity Sold per Product for Male and Female

customer_gender ● Female ● Male

Sales per product for Male and Female
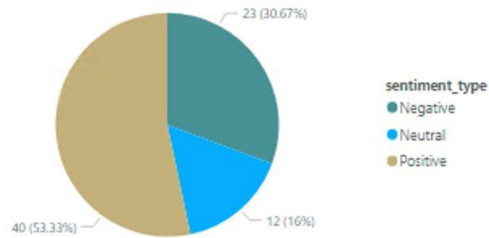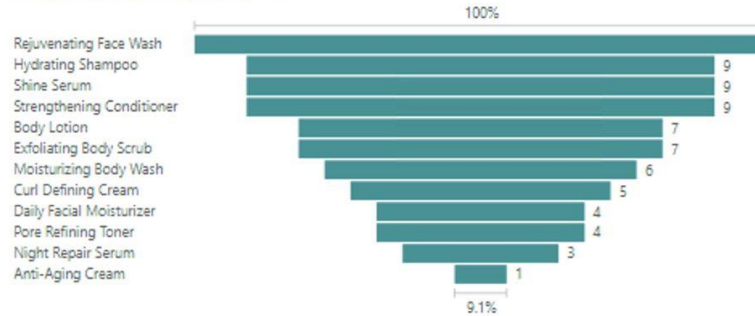
customer_gender ● Female ● Male

USER STORY- 4

Sentiment Analysis: As Product Managers, we want to analyze the sentiments across number of feedbacks and products to prioritize product enhancements, ensuring continuous product improvement.
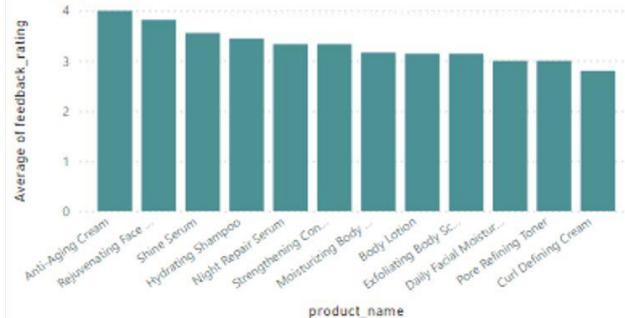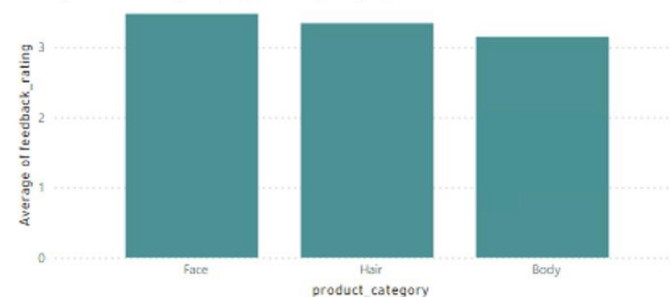

Overall sentiments for products

sentiment_type
- Negative
- Neutral
- Positive

23 (30.67%)
40 (53.33%)
12 (16%)

Number of Feedbacks per Product

100%

Product	Feedbacks
Rejuvenating Face Wash	
Hydrating Shampoo	9
Shine Serum	9
Strengthening Conditioner	9
Body Lotion	7
Exfoliating Body Scrub	7
Moisturizing Body Wash	6
Curl Defining Cream	5
Daily Facial Moisturizer	4
Pore Refining Toner	4
Night Repair Serum	3
Anti-Aging Cream	1

9.1%

Average Ratings

Average of feedback_rating by product_category

USER STORY- 5

Feedback Analysis: As sentiment analysts, we need to visually represent the distribution of feedback categories (positive, neutral, negative) by displaying the most frequently used keywords or themes within each category. This aids in understanding prevalent sentiments among customers and guiding targeted improvements in product or service areas.

Positive Keywords	Neutral Keywords	Negative Keywords

Retrieve all products purchased by a specific customer

```sql
SELECT p.product_name
FROM purchases pu
JOIN products p ON pu.product_id = p.product_id
WHERE pu.customer_id = 6;
```

	product_name
1	Shine Serum
2	Body Lotion
3	Pore Refining Toner

Details of neutral feedback where comments include "adequate," using joins across feedbacks, sentiments, and products tables

```sql
SELECT f.feedback_id, f.customer_id, f.product_id, s.sentiment_type, f.feedback_rating, f.feedback_comments, f.feedback_date
FROM feedbacks f
JOIN sentiments s ON f.sentiment_id = s.sentiment_id
JOIN products p ON f.product_id = p.product_id
WHERE f.feedback_comments LIKE '%adequate%'
AND s.sentiment_type = 'neutral';
```

	feedback_id	customer_id	product_id	sentiment_type	feedback_rating	feedback_comments	feedback_date
1	48	47	5	Neutral	3	"The 'Exfoliating Body Scrub' works adequately, though it…	2023-06-21
2	50	49	7	Neutral	3	"Using the 'Anti-Aging Cream' hasn't shown dramatic resul…	2024-03-13

Total purchase cost for each product

```sql
SELECT p.product_name, SUM(pu.purchase_cost) AS total_cost
FROM purchases pu
JOIN products p ON pu.product_id = p.product_id
GROUP BY p.product_name;
```

	product_name	total_cost
1	Anti-Aging Cream	250.00
2	Body Lotion	680.00
3	Curl Defining Cream	60.00
4	Daily Facial Moisturizer	90.00
5	Exfoliating Body Scrub	175.00
6	Hydrating Shampoo	450.00
7	Moisturizing Body Wash	280.00
8	Night Repair Serum	35.00
9	Pore Refining Toner	45.00
10	Rejuvenating Face Wash	150.00
11	Shine Serum	40.00
12	Strengthening Condition…	200.00

Improve the performance of a query that frequently searches for products by name. Creating an index on the product_name column in the products table to speed up these searches

```sql
-- Creating an index on product_name column in the products table

CREATE INDEX idx_product_name ON products (product_name);

-- Query using the indexed column
SELECT *
FROM products
WHERE product_name = 'Body Lotion';
```

	product_id	product_name	product_category_id	product_cost
1	7	Body Lotion	2	85.00

Want to maintain a history of purchases made by customers in a separate table purchases_history whenever a new purchase is inserted into the purchases table

```sql
-- Creating a trigger to insert purchase history

CREATE TRIGGER trg_insert_purchase_history
ON purchases
AFTER INSERT
AS
BEGIN
    INSERT INTO purchases_history (customer_id, product_id, purchase_cost, purchase_quantity, purchase_date)
    SELECT customer_id, product_id, purchase_cost, purchase_quantity, purchase_date
    FROM inserted;
END;

--This trigger will automatically insert a new record into the purchases_history table whenever a new purchase is added to the purchases table.
```

```
Started executing query at Line 414
Commands completed successfully.
Total execution time: 00:00:00.073
```

Thank you!